

Leu	Val	Tyr	Thr	Leu	Ala	Pro	Arg	Ala	Asp	Lys	Asp	Thr	Glu	Lys	
65				70					75					80	
Leu	Val	Gly	Lys	Leu	Thr	Arg	Lys	Phe	Lys	Val	Gly	Ala	Phe	Leu	Tyr
			85						90					95	
Ser	Glu	Gly	Thr	Val	Glu	Asp	Gln	Ala	Asn	Leu	Thr	Asn	Tyr	Ala	Gln
			100					105					110		
Arg	Gln	Ser	Lys	Ile	Pro	Leu	Met	Ile	Thr	Phe	Asp	Gly	Glu	Trp	Gly
		115					120					125			
Leu	Ala	Met	Arg	Leu	Glu	Asn	Thr	Pro	Val	Phe	Pro	Arg	Asn	Ala	Ala
	130					135					140				
Leu	Gly	Cys	Ile	Ser	Asp	Asn	Thr	Leu	Ile	Glu	Ala	Tyr	Gly	Gln	Glu
145					150					155					160
Val	Ala	Arg	Glu	Leu	Arg	Glu	Ile	Gly	Ala	His	Val	Asn	Phe	Ala	Pro
			165						170						175
Asp	Ala	Asp	Val	Asn	Thr	Asn	Pro	Glu	Asn	Pro	Val	Ile	His	Val	Arg
			180					185					190		
Ser	Phe	Gly	Glu	Asn	Pro	Lys	Thr	Val	Ala	Glu	Lys	Val	Ile	Ala	Tyr
		195					200					205			
Gly	Arg	Gly	Leu	Glu	Thr	Gly	Gly	Ile	Leu	Ser	Val	Ser	Lys	His	Phe
	210					215						220			
Pro	Gly	His	Gly	Asp	Thr	Asp	Val	Asp	Ser	His	Gln	Ala	Leu	Pro	Ala
225					230						235				240
Val	Tyr	Tyr	Asn	Arg	Ala	Arg	Leu	Asp	Ser	Val	Glu	Leu	Tyr	Pro	Phe
			245						250						255
Lys	Glu	Ala	Ile	Gln	Ala	Gly	Leu	Gly	Gly	Val	Met	Val	Gly	His	Leu
			260					265						270	
Gln	Val	Pro	Ala	Leu	Glu	Pro	Asp	Arg	Ile	Thr	Pro	Ser	Ser	Leu	Ser
		275					280						285		
His	Ser	Ile	Val	Thr	Asp	Leu	Leu	Arg	Gly	Glu	Leu	Gly	Phe	Asn	Gly
	290					295					300				
Leu	Val	Phe	Thr	Asp	Ala	Leu	Ala	Met	Lys	Gly	Val	Ala	Ala	Glu	Ser
305					310					315					320
Asp	Val	Thr	Val	Lys	Ala	Leu	Lys	Ala	Gly	Asn	Asp	Met	Val	Leu	Val
			325						330					335	
Gln	Gln	Asn	Val	Glu	Lys	Ala	Gln	Glu	Ser	Val	Val	Gln	Ala	Ile	Lys
			340					345					350		
Asp	Gly	Arg	Leu	Thr	Met	Glu	Glu	Ile	Asp	Ala	Lys	Cys	Arg	Arg	Ile
		355				360						365			
Leu	Ala	Tyr	Lys	Tyr	Arg	Leu	Gly	Leu	Ser	Arg	Arg	Pro	Met	Ile	Pro
	370					375						380			
Val	Asp	Gly	Leu	Ser	Asp	Arg	Ile	His	Thr	Pro	Glu	Ala	Gln	Ala	Leu
385					390						395				400
Val	Thr	Lys	Leu	Arg	Thr	Ser	Ala	Val	Thr	Val	Leu	Gly	Asn	Tyr	Phe
			405						410					415	
Gln	Ile	Leu	Pro	Leu	Thr	Ala	Thr	Lys	Gly	Glu	Ile	Ala	Val	Leu	Thr
			420					425					430		
Val	Gly	Asp	Glu	Gly	Ser	Asp	Ala	Ser	Phe	Ile	Glu	Gly	Leu	Arg	Ser
		435					440					445			
Glu	Leu	Pro	Leu	Lys	Thr	Phe	Arg	Met	Asp	Lys	Asn	Thr	Gly	Glu	Glu
	450					455					460				
Glu	Arg	Arg	Lys	Ile	Val	Lys	Glu	Leu	Gly	Asn	Tyr	Arg	Arg	Val	Val
465					470					475					480
Val	Cys	Ile	Thr	Val	Gln	Asp	Lys	Glu	Ala	Gly	Glu	Tyr	Arg	Ser	Phe
			485						490					495	
Phe	Ala	Gly	Phe	Arg	Pro	Gln	Ala	Pro	Val	Val	Tyr	Ala	Phe	Phe	Thr
		500						505					510		
Ser	Tyr	Arg	Ala	Leu	Ala	Ser	Leu	Glu	Glu	Ala	Ala	Ala	Arg	Ser	Ala
		515					520					525			
Ala	Val	Val	Leu	Ala	His	Ser	Gly	Glu	Glu	Asp	Leu	Gln	Arg	Tyr	Val

530	535	540
Ala Asp Val Val Leu Gly	Lys Ala Ser Ala Thr Gly	Arg Leu Ser Met
545	550	555
Arg Ile Gly Asn Thr Phe	Ala Ala Gly Ser Gly	Val Asp Val Ile Ser
	565	570
Gly Ser Pro Ala Gly	Ile Ala Pro Glu Asp Tyr Gly	Leu Lys Ser Tyr
	580	585
Arg Leu His Arg Ile Asp	Ser Val Val Ala Ala Gly	Leu Ala Ala Lys
	595	600
Ala Phe Pro Gly Cys Gln	Val Leu Val Leu Arg His	Gly Gln Pro Val
	610	615
Tyr Asp Lys Cys Phe Gly	Thr His Ser Val Thr Asp	Thr Thr Pro Val
	625	630
Arg Ala Thr Asp Leu Phe	Asp Leu Ala Ser Leu Thr	Lys Thr Ser Ala
	645	650
Thr Leu Leu Ala Val Met	Lys Leu Tyr Asp Gln Gly	Arg Ile Glu Leu
	660	665
Thr Asp Ala Val Ser Lys	Tyr Val Pro Ala Leu Arg	Ala Thr Asn Lys
	675	680
Lys Asn Ile Thr Ile Arg	Glu Leu Leu Leu His Glu	Ser Gly Leu Val
	690	695
Pro Tyr Ile Arg Phe Tyr	Arg Asp Ala Ile Asp Glu	Tyr Ser Val Thr
	705	710
Gly Pro Phe Thr Gln Gly	Phe Val Asp Glu Trp His	His Thr Arg Met
	725	730
Gly Glu Tyr Thr Tyr Ala	Cys Ser Asp Phe Lys Phe	Lys Lys Gly Leu
	740	745
Val Ser Ala Thr Lys Thr	Ser Gly His Thr Leu Gln	Ile Ala Asp Gly
	755	760
Leu Trp Leu Asp Lys Lys	Phe Lys Ala Ala Met Met	Lys Ser Ile Ala
	770	775
Gln Ser Glu Leu Asp Arg	Lys Arg Phe Val Tyr Ser	Asp Ile Gly Phe
	785	790
Ile Leu Leu Gln Gln Val	Val Glu Ala Val Thr Gly	Lys Thr Leu Asp
	805	810
Ala Tyr Leu Val Ser Glu	Phe Tyr Arg Pro Met Gly	Leu Glu His Thr
	820	825
Leu Phe His Pro Leu Asn	Arg Tyr Lys Lys Ala Asp	Ile Met Pro Thr
	835	840
Ala Ala Asn Asp Tyr Leu	Arg Gln Asp Leu Cys Gly	Tyr Val His
	850	855
Asp Glu Ala Ala Ala Phe	Met Gly Gly Val Ser Gly	Asn Ala Gly Leu
	865	870
Phe Ser Thr Ala Gln Glu	Leu Gly Lys Ile Tyr Gln	Met Ile Leu Asn
	885	890
Glu Gly Glu Leu Asp Gly	Lys Arg Tyr Leu Arg Pro	Glu Thr Cys Arg
	900	905
Ile Phe Thr Thr Glu Lys	Ser Ala Val Ser His Arg	Gly Leu Gly Tyr
	915	920
Asp Lys Pro Asn Leu Lys	Asp Pro Lys Ala Asn Ala	Cys Ala Ser Ser
	930	935
Ala Pro Ala Ser Val Tyr	Gly His Thr Gly Phe Thr	Gly Thr Cys Ala
	945	950
Trp Val Asp Pro Glu Asn	Asp Leu Val Tyr Ile Phe	Leu Ser Asn Arg
	965	970
Leu Cys Pro Asp Ala Trp	Asn Gly Lys Leu Asn Ser	Met Lys Ile Arg
	980	985
Gln Ala Val Gln Glu Val	Ile Tyr Gln Ser Leu Tyr	Thr Pro Glu
	995	1000
		1005

<210> 10159  
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 <212> PRT  
 <213> B.fragilis

<400> 10159

Thr	Met	Asp	Leu	Ser	Ala	Ala	Lys	Leu	Tyr	Asn	Ser	Gln	Arg	Met	Asn
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Arg	Ala	Ile	Ser	Arg	Lys	Lys	Phe	Tyr	Phe	Trp	Lys	Ile	Ile	Leu	Glu
		20					25					30			
Gly	Pro	Gly	Lys	Lys	Trp	Glu	Pro	Asn	Arg	Arg	Thr	Leu	Lys	Asp	Leu
		35				40					45				
Gly	Met	Val	Glu	Glu	Pro	Tyr	Gly	Lys	Lys	Thr	Leu	Phe	Ser	Leu	Phe
	50				55					60					
Asp	Met	Thr	Glu	Ser	Asp	Gly	Gly	Lys	Arg	Gly	Leu	Glu	Lys	Trp	Leu
65				70					75					80	
Val	His	Pro	Leu	Ser	Asp	Trp	Lys	Ala	Leu	His	Glu	Arg	Gln	Glu	Ala
			85					90					95		
Ile	Arg	Tyr	Pro	Asp	Phe	Pro	Glu	Ile	Arg	Ile	Cys	Arg	Glu	Glu	Leu
		100					105						110		
Asp	Phe	Ile	Glu	Phe	Tyr	Leu	Ser	Gln	Gly	Asp	Arg	Pro	Thr	Arg	Val
	115					120					125				
Ser	Tyr	Leu	Glu	Ser	Ala	Phe	Ser	Tyr	Ile	Phe	Arg	His	Phe	Arg	Ala
	130				135					140					
Thr	Pro	Glu	Arg	Tyr	Val	Ile	Arg	Arg	Gly	Thr	Lys	Leu	Leu	Glu	Asn
145				150						155				160	
Val	Leu	Leu	Glu	Leu	Lys	Thr	Phe	Ala	Asp	His	Val	Thr	Ala	Leu	Ser
			165					170						175	
Pro	Arg	Leu	Ile	Arg	Asn	Ile	Ala	Ala	Thr	Ile	Ser	Glu	Ile	Tyr	Gln
		180					185						190		
Ala	Thr	Glu	Leu	Gly	Lys	Met	Val	Asp	Ser	Cys	Gly	Gln	Glu	Asp	Ser
	195					200					205				
Phe	Tyr	Arg	Thr	Asp	Arg	Leu	Asp	Tyr	Ile	Phe	Arg	Tyr	Arg	Arg	Asn
	210				215					220					
His	Thr	Ile	Ala	Ala	Leu	Leu	Ser	Ile	Val	Tyr	Gln	Leu	Asp	Ala	Ile
225				230					235					240	
Arg	Thr	Val	His	Arg	Thr	Ala	Val	Thr	Lys	Gly	Trp	Cys	Phe	Pro	Ser
			245						250					255	
Phe	Thr	Asn	Asp	Ser	Lys	Phe	Met	Leu	Cys	Asn	Phe	Tyr	His	Pro	Gln
		260					265						270		
Val	Lys	Asp	Ala	Val	Ala	Asn	Asp	Trp	Glu	Met	Glu	Asn	Gly	Asn	Ile
	275					280						285			
Cys	Ile	Phe	Thr	Gly	Ser	Asn	Met	Ala	Gly	Lys	Ser	Thr	Thr	Leu	Lys
	290				295						300				
Ala	Ile	Ala	Ser	Ala	Val	Trp	Leu	Ala	His	Ala	Gly	Phe	Pro	Val	Pro
305				310					315					320	
Ala	Ser	Ser	Met	Val	Cys	Pro	Met	Phe	Asp	Gly	Ile	Phe	Thr	Ser	Ile
			325					330						335	
Asn	Leu	Pro	Asp	Ser	Leu	Arg	Asp	Gly	Arg	Ser	Tyr	Phe	Tyr	Ala	Glu
		340					345						350		
Val	Leu	Arg	Val	Lys	Glu	Val	Leu	Glu	Gln	Ile	Asn	Lys	Gly	His	His
	355					360						365			
Cys	Phe	Val	Leu	Phe	Asp	Glu	Leu	Phe	Arg	Gly	Thr	Asn	Ala	Arg	Asp
	370				375						380				
Ala	Phe	Glu	Ala	Ser	Val	Ala	Val	Ala	Glu	Val	Leu	Lys	Ala	Lys	Ala
385				390					395					400	
Tyr	Ser	Arg	Phe	Leu	Ile	Ser	Thr	His	Ile	Ile	Glu	Leu	Ala	Arg	Lys
			405					410						415	

6003 10159 466 PRT B.fragilis

Leu Asp Gly Asp Asp Ala Cys Cys Phe Tyr Tyr Leu Glu Ser Ala Ile  
 420 425 430  
 Val Asp Asp Glu Leu Ile Cys Asn His Lys Val Lys Pro Gly Ile Ser  
 435 440 445  
 Glu Ser Arg Val Gly Tyr Trp Ile Val Lys Lys Glu Leu Ala Gly Phe  
 450 455 460  
 Glu Lys  
 465

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 <212> PRT  
 <213> B.fragilis

<400> 10160  
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 Ala Glu Glu Lys Gln Met Val Val Arg Trp Leu Asp Ala Asp Pro Gln  
 20 25 30  
 His Met Arg Glu Tyr Leu Ala Leu Arg Lys Leu His Asp Ile Thr Leu  
 35 40 45  
 Trp Gln Glu Lys Pro Ala Ala Thr Val Asp Lys Lys Lys Arg Leu Thr  
 50 55 60  
 Leu Pro Tyr Ile Arg Glu Phe Ile Lys Ile Ala Ala Ile Phe Leu Ile  
 65 70 75 80  
 Ala Val Thr Ser Val Tyr Phe Leu Ala Pro Glu Arg Gly Lys Asp Thr  
 85 90 95  
 Pro Asp Leu Lys Ala Ile His Val Pro Ser Gly Gln Arg Ala Glu Leu  
 100 105 110  
 Thr Leu Gly Asp Gly Thr Arg Val Cys Leu Asn Ser Asn Thr Thr Leu  
 115 120 125  
 Thr Phe Pro Asp His Phe Asp Arg Lys Glu Arg Arg Val Thr Leu Asp  
 130 135 140  
 Gly Glu Gly Tyr Phe Gln Val Ala Lys Asn Asp Lys Lys Pro Phe Ile  
 145 150 155 160  
 Val Gln Ala Lys Glu Tyr Glu Val Arg Val Leu Gly Thr Glu Phe Asn  
 165 170 175  
 Val Met Met Tyr Lys Asp Gln Asp Phe Phe Glu Thr Val Leu Leu Lys  
 180 185 190  
 Gly Ser Val Glu Val Asn Glu Thr Thr Thr Gly Arg Lys Val Lys Leu  
 195 200 205  
 Gln Pro Asn Glu Arg Leu Phe Gly Lys Ala Gly Gln Leu Arg Lys Glu  
 210 215 220  
 Ser Ile Ser Glu Trp Asn Arg Ala Leu Trp Met Gln Gly Ile Leu Tyr  
 225 230 235 240  
 Phe Asp Asn Thr Arg Met Asp Glu Ile Ile Arg Gln Leu Gly Leu Tyr  
 245 250 255  
 Tyr Asp Val Lys Phe Ile Leu Glu Lys Glu Ser Leu Ala Asn Val Arg  
 260 265 270  
 Phe Thr Gly Lys Phe Arg Ile Arg Asp Gly Val Glu His Val Leu Lys  
 275 280 285  
 Val Leu Gln Leu Lys Cys Lys Phe Thr Tyr Gln Arg Asp Glu Asp Ser  
 290 295 300  
 Asn Thr Ile Thr Ile Asn  
 305 310

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 <211> 1085  
 <212> PRT



<213> B.fragilis

<400> 10161

Val	Leu	Ile	Asn	Thr	Val	Tyr	Lys	Cys	Met	Lys	Asn	Thr	Leu	Ile	Lys
1				5					10					15	
Thr	Ser	Lys	Ile	Val	Asn	Lys	Ser	Ile	Ser	His	Thr	Met	Lys	Met	Ile
			20					25					30		
Val	Leu	Phe	Leu	Phe	Val	Phe	Ile	Ser	Gly	Val	Phe	Ala	Gly	Asn	Ala
		35					40					45			
Asn	Ser	Gln	Glu	Thr	Lys	Val	Ser	Ile	Ser	Lys	Asn	Asn	Lys	Pro	Ile
	50					55					60				
Arg	Glu	Ile	Leu	Gly	Glu	Ile	Glu	Arg	Gln	Thr	Asp	Tyr	Leu	Phe	Val
65				70						75				80	
Tyr	Ser	Glu	Lys	Glu	Val	Asp	Val	Asn	Gln	Arg	Lys	Thr	Val	Asn	Val
			85					90						95	
Ser	Gln	Gln	Arg	Val	Ala	Asp	Val	Leu	Ser	Ser	Leu	Phe	Arg	Ser	Thr
			100					105					110		
Asn	Val	Gly	Tyr	Ala	Met	Glu	Gly	His	Asn	Ile	Met	Leu	Met	Ala	Lys
		115					120						125		
Thr	Thr	Gln	Thr	Asp	Ala	Ala	Gln	Gln	Lys	Arg	His	Ile	Thr	Gly	Val
	130				135						140				
Val	Lys	Asp	Ile	Lys	Gly	Glu	Thr	Ile	Ile	Gly	Ala	Asn	Ile	Met	Ile
145					150					155				160	
Lys	Gly	Thr	Gly	Thr	Gly	Val	Ser	Thr	Asn	Ile	Asp	Gly	Glu	Phe	Ser
			165					170						175	
Ile	Glu	Ala	Ala	Ala	Gly	Asp	Glu	Leu	Ile	Val	Ser	Phe	Ile	Gly	Tyr
		180					185						190		
Leu	Thr	Gln	Thr	Ile	Lys	Ile	Asp	Ser	Gln	Lys	Thr	Leu	Asn	Ile	Lys
		195					200					205			
Leu	Leu	Glu	Asp	Thr	Lys	Thr	Leu	Glu	Glu	Val	Val	Val	Val	Gly	Tyr
	210					215					220				
Thr	Val	Gln	Thr	Lys	Ser	Ala	Val	Thr	Gly	Ser	Val	Ala	Val	Val	Lys
225				230						235					240
Ala	Asp	Lys	Leu	Lys	Asp	Val	Asn	Thr	Leu	Glu	Val	Gly	Ser	Met	Leu
			245					250						255	
Gln	Gly	Lys	Val	Ser	Gly	Val	Tyr	Val	Ser	Gly	Ser	Ser	Gly	Glu	Pro
			260					265						270	
Gly	His	Ala	Ser	Lys	Ile	Arg	Ile	Arg	Gly	Lys	Gly	Thr	Leu	Asn	Ser
		275					280					285			
Ser	Val	Ser	Pro	Leu	Trp	Val	Val	Asp	Gly	Val	Ile	Val	Gly	Glu	Asp
	290					295					300				
Pro	Gly	Leu	Asn	Pro	Asn	Glu	Ile	Asp	Asn	Ile	Ser	Val	Leu	Lys	Asp
305				310						315					320
Gly	Ser	Ala	Thr	Ala	Leu	Tyr	Gly	Ser	Arg	Ala	Ala	Asn	Gly	Val	Ile
			325					330						335	
Val	Val	Thr	Thr	Lys	Arg	Gly	Glu	Tyr	Asp	Ala	Asn	Lys	Tyr	Ser	Val
			340					345						350	
Ser	Ile	Asn	Ala	Gly	Val	Ser	Leu								

Ser	Asn	Asn	Asp	Val	Lys	Phe	Thr	Asp	Arg	Phe	Thr	Met	Ser	Thr	Lys
450						455					460				
Ile	Ser	Gly	Ser	Leu	Ser	Arg	Thr	Asp	Ser	Gln	Gln	Arg	Ser	Val	Tyr
465					470					475					480
Asn	Thr	Tyr	Leu	Tyr	Leu	Pro	Trp	Asp	Phe	Pro	Tyr	Asn	Glu	Asp	Gly
				485					490					495	
Ser	Ile	Arg	Ser	Gly	Gln	Glu	Gln	Asp	Trp	Arg	Gly	Arg	Asp	Gly	Ile
			500					505					510		
Asn	Asp	Met	Tyr	Asp	Leu	Gln	Trp	Asn	Trp	Ser	Arg	Ser	Lys	Lys	Leu
		515					520						525		
Thr	Val	Asp	Gly	Thr	Ile	Asn	Phe	Asn	Tyr	Gln	Ile	Thr	Asp	Trp	Leu
	530					535					540				
Arg	Phe	Glu	Ser	Asn	Asn	Tyr	Ile	Arg	Tyr	Ile	Ser	Asn	Arg	Ser	Glu
545					550					555					560
Ser	Tyr	Thr	Asp	Lys	Arg	Ser	Arg	Ser	Gly	Gln	Ser	Asp	Lys	Gly	Ser
				565					570					575	
Leu	Ser	Asn	Ser	Asn	Ser	Leu	Leu	Thr	Lys	Gln	Phe	Thr	Asn	Gln	Met
				580					585					590	
Ile	Arg	Phe	Glu	Lys	Ser	Phe	Gly	Lys	His	Lys	Val	Asn	Ala	Leu	Gly
		595					600					605			
Ala	Tyr	Glu	Tyr	Thr	Arg	His	Phe	Tyr	Glu	Ser	Thr	Ser	Ala	Glu	Gly
	610						615					620			
Arg	Gly	Ile	Gln	Pro	Gly	Arg	Glu	Ile	Leu	Asp	Val	Thr	Thr	Gly	Ile
625					630						635				640
Lys	Ser	Ile	Gly	Gly	Tyr	Lys	Asp	Ala	Ile	Ala	Thr	Gln	Ser	Ala	Leu
				645						650				655	
Phe	Asn	Ala	Asn	Tyr	Asp	Tyr	Asp	Asn	Arg	Tyr	Met	Gly	Gln	Val	Ser
			660						665					670	
Tyr	Arg	Met	Asp	Glu	Ser	Ser	Cys	Phe	Gly	Lys	Asn	Asn	Arg	Met	Gly
		675						680					685		
His	Phe	Phe	Thr	Val	Ser	Gly	Gly	Trp	Asn	Ile	Gln	Asn	Glu	Thr	Phe
	690					695						700			
Phe	Glu	Ser	Leu	Arg	Glu	Ser	Val	Asn	Gln	Leu	Lys	Val	Arg	Val	Ser
705					710					715					720
Tyr	Gly	Ser	Leu	Gly	Asn	Thr	Pro	Gly	Ala	Tyr	Tyr	Gly	His	Tyr	Pro
				725						730				735	
Leu	Tyr	Ser	Ser	Met	Met	Tyr	Asn	Asp	Glu	Val	Ala	Tyr	Phe	Pro	Ser
			740						745					750	
Gln	Met	Gly	Asn	Ala	Asp	Leu	Ser	Trp	Glu	Lys	Cys	Tyr	Thr	Thr	Asn
		755						760					765		
Ile	Gly	Ile	Asp	Ala	Arg	Phe	Phe	Asp	Arg	Phe	Gly	Val	Thr	Ile	Asp
	770					775					780				
Leu	Tyr	Asn	Lys	Asn	Thr	Ser	Asp	Leu	Leu	Tyr	Tyr	Ala	Pro	Leu	Pro
785					790						795				800
Asn	Ile	Ser	Gly	Tyr	Thr	Gly	Gln	Tyr	Lys	Asn	Val	Gly	Ala	Ile	Asn
				805						810				815	
Asn	Lys	Gly	Leu	Glu	Ile	Ser	Leu	Asn	Ala	Asp	Val	Ile	Arg	Thr	Ser
			820						825					830	
Lys	Phe	Gln	Trp	Thr	Ser	Asp	Phe	Asn	Ile	Gly	Phe	Asn	Arg	Asn	Arg
		835						840					845		
Val	Thr	Glu	Leu	Tyr	Gly	Arg	Lys	Pro	Glu	Leu	Lys	Gly	Leu	Lys	Arg
	850						855					860			
Leu	Glu	Glu	Arg	Arg	Asp	Met	Asp	Glu	Trp	Tyr	Leu	Lys	Glu	Trp	Ala
865					870					875					880
Gly	Val	Asp	Pro	Ala	Asn	Arg	Ser	Pro	Leu	Trp	Tyr	Thr	Pro	Arg	Trp
				885						890				895	
Glu	Trp	Pro	Lys	Ala	Gln	Leu	Pro	Asp	Ser	Tyr	Asn	Lys	Ala	Asp	Arg
			900						905					910	
Val	Tyr	Cys	Gly	Ser	Ala	Ala	Arg	Lys	Phe	Thr	Gly	Gly	Trp	Met	Asn

915	920	925
Ser Phe Ser Tyr Lys Gly Phe Thr Leu Thr Ala Asn Phe Asp Phe Val		
930	935	940
Tyr Gly Asn Leu Leu Tyr Asn Gln Ser Arg Glu Leu Leu Asp Ser Asp		
945	950	955
Gly Ala Tyr Ala Asp Tyr Asn Ser Met Lys Leu Lys Ser Gly Trp Lys		
	965	970
Arg Trp Glu Lys Glu Gly Asp Ile Ala Thr His Pro Lys Ala Ile Asn		
	980	985
Gly Gly Asn Lys Asn Ser Asn Lys Ser Ser Ser Arg Tyr Leu Glu Lys		
	995	1000
Gly Asn Tyr Phe Ser Leu Arg Asn Leu Ser Leu Gly Tyr Ser Ile Pro		
	1010	1015
Glu Lys Leu Cys Gly Lys Leu Gly Leu Gln Arg Val Asn Val Ser Cys		
1025	1030	1035
Ser Ala Asp Asn Leu Phe Thr Leu Thr Pro Phe Ser Gly Val Ser Pro		
	1045	1050
Gln Leu Ser Asp Ser Ser Thr Asp Gly Tyr Ala Gly Thr Ile Tyr Pro		
	1060	1065
Leu Ser Arg Arg Ile Val Leu Gly Leu Asn Val Ser Phe		
	1075	1080
		1085

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 <212> PRT  
 <213> B.fragilis

<400> 10162

Phe Val Cys Asn Lys His Leu Ile Leu Thr Asn Pro Leu Asn Lys Ser		
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Ile Met Asn Ser Ser Met Glu Lys Pro Tyr Val Val Gly Ile Asp Ile		
	20	25
Gly Gly Thr Asn Thr Val Phe Gly Ile Val Asp Ala Arg Gly Thr Ile		
	35	40
Ile Ala Ser Gly Ala Val Lys Thr Gln Val Tyr Pro Thr Val Glu Glu		
	50	55
Tyr Ala Asp Glu Val Cys Lys Asn Leu Leu Pro Leu Ile Ile Ala Asn		
65	70	75
Gly Gly Val Asp Lys Ile Lys Gly Ile Gly Ile Gly Ala Pro Asn Gly		
	85	90
Asn Tyr Tyr Thr Gly Thr Ile Glu Phe Ala Pro Asn Leu Pro Trp Lys		
	100	105
Gly Val Leu Pro Leu Ala Ser Met Phe Glu Glu Arg Leu Gly Ile Pro		
	115	120
Thr Ala Leu Thr Asn Asp Ala Asn Ala Ala Val Gly Glu Met Thr		
	130	135
Tyr Gly Ala Ala Arg Gly Met Lys Asp Phe Ile Met Ile Thr Leu Gly		
145	150	155
Thr Gly Val Gly Ser Gly Ile Val Ile Asn Gly Gln Val Val Tyr Gly		
	165	170
His Asp Gly Phe Ala Gly Glu Leu Gly His Val Ile Val Arg Arg Asp		
	180	185
Gly Arg Ile Cys Gly Cys Gly Arg Lys Gly Cys Leu Glu Thr Tyr Cys		
	195	200
Ser Ala Thr Gly Val Ala Arg Thr Ala Arg Glu Phe Leu Ala Ala Arg		
	210	215
Thr Asp Ala Ser Leu Leu Arg Asn Ile Pro Ala Glu Ser Ile Val Ser		
225	230	235
Lys Asp Val Tyr Asp Ala Ala Val Gln Gly Asp Lys Leu Ala Gln Glu		

[illegible]

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<210> 10163
<211> 368
<212> PRT
<213> B.fragilis
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<400>	10163														
Asn	Lys	Met	Lys	Lys	Tyr	Leu	Lys	Ile	Thr	Leu	Leu	Val	Val	Val	Ala
1			5						10					15	
Ala	Ile	Phe	Ile	Gly	Thr	Phe	Ile	Phe	Leu	Tyr	Gln	Lys	Ser	Lys	Pro
			20					25					30		
Lys	Thr	Thr	Val	Tyr	Glu	Thr	Val	Thr	Pro	Glu	Ile	Ala	Asp	Leu	Glu
		35					40					45			
Lys	Thr	Thr	Val	Ala	Thr	Gly	Lys	Val	Glu	Pro	Arg	Asp	Glu	Val	Leu
	50					55					60				
Ile	Lys	Pro	Gln	Ile	Ser	Gly	Ile	Ile	Ser	Glu	Val	Tyr	Lys	Glu	Ala
65					70					75					80
Gly	Gln	Thr	Ile	Lys	Gln	Gly	Glu	Val	Ile	Ala	Lys	Val	Lys	Val	Ile
			85						90					95	
Pro	Glu	Leu	Gly	Gln	Leu	Asn	Ser	Ala	Glu	Ser	Arg	Val	Arg	Val	Ala
			100					105					110		
Glu	Ile	Ser	Thr	Ala	Gln	Ala	Glu	Thr	Asp	His	Glu	Arg	Ile	Lys	Lys
		115					120					125			
Leu	Tyr	Asn	Asp	Lys	Leu	Ile	Ser	Arg	Glu	Asp	Tyr	Glu	Lys	Ser	Glu
	130					135					140				
Val	Glu	Ile	Lys	Lys	Ala	Arg	Glu	Glu	Leu	Gln	Thr	Ala	Lys	Asp	Ala
145					150					155					160
Leu	Glu	Ile	Ile	Lys	Glu	Gly	Ile	Thr	Lys	Asn	Ser	Ala	Ser	Phe	Ser
			165						170					175	
Ser	Thr	Leu	Ile	Arg	Ser	Thr	Ile	Asp	Gly	Leu	Ile	Leu	Asp	Val	Pro
		180						185					190		
Ile	Lys	Val	Gly	Asn	Ser	Val	Ile	Met	Ser	Asn	Thr	Phe	Asn	Asp	Gly
		195					200					205			
Thr	Thr	Ile	Ala	Thr	Val	Ala	Asn	Met	Asn	Asp	Leu	Ile	Phe	Lys	Gly
	210					215					220				
Lys	Ile	Asp	Glu	Thr	Glu	Val	Gly	Arg	Ile	His	Glu	Gly	Met	Pro	Val
225				230						235					240
Lys	Leu	Thr	Ile	Gly	Ala	Leu	Gln	Asn	Leu	Thr	Phe	Asp	Ala	Glu	Leu
			245						250					255	
Glu	Tyr	Ile	Ser	Pro	Lys	Gly	Val	Glu	Glu	Asn	Gly	Ala	Asn	Gln	Phe
		260						265					270		
Glu	Ile	Lys	Ala	Val	His	Ala	Pro	Asp	Ser	Val	Gln	Ile	Arg	Ser	
		275				280					285				
Gly	Tyr	Ser	Ala	Asn	Ala	Glu	Ile	Val	Leu	Gln	Arg	Ala	Gln	Lys	Val
	290					295					300				
Leu	Ala	Val	Pro	Glu	Gly	Ile	Ile	Glu	Phe	Ser	Gly	Asp	Ser	Thr	Phe

305		310		315		320
Val Trp Val Met Thr Asp Ser Ile Pro Glu Gln Lys Phe Glu Arg Arg						
		325		330		335
Gln Ile Lys Thr Gly Met Ser Asp Gly Ile Lys Leu Glu Ile Lys Glu						
		340		345		350
Gly Leu Thr Gly Lys Glu Lys Val Arg Ala Ser Glu Lys Lys Asp Lys						
		355		360		365

&lt;210&gt; 10164

&lt;211&gt; 450

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (83)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 10164

Gly Lys Tyr Glu Ser Pro Thr Met His Asn Met Arg Asn Lys Ile Leu						
1		5		10		15
Ile Asn Leu Leu Ile Leu Thr Gly Leu Ser Ala Tyr Thr Ala Gln Ala						
		20		25		30
Gln Glu Gly Trp Thr Leu Arg Arg Cys Ile Asp Tyr Ala Ile Glu His						
		35		40		45
Asn Ile Asn Val Gln Gln Thr Ala Asn Ser Ala Glu Gln Ser Lys Val						
		50		55		60
Glu Val Asn Thr Ala Lys Trp Ala Arg Leu Pro Asn Leu Ser Gly Ser						
		65		70		75
Ala Ser Xaa Asn Trp Ser Trp Gly Arg Thr Ala Ser Pro Val Asp Asn						
		85		90		95
Thr Tyr Asn Asp Ile Asn Ser Gly Ser Ser Ser Phe Ser Leu Gly Thr						
		100		105		110
Asn Ile Pro Leu Phe Thr Gly Leu Glu Leu Pro Asn Gln Tyr Ala Leu						
		115		120		125
Thr Lys Leu Asn Leu Lys Ala Ala Ile Glu Asp Leu Asn Lys Ala Lys						
		130		135		140
Glu Asp Leu Ala Ile Asn Val Thr Ser Ala Tyr Leu Gln Val Leu Phe						
		145		150		155
Asn Gln Glu Leu Ser Lys Val Ala Gln Ser Gln Val Gly Leu Ser Lys						
		165		170		175
Glu Gln Leu Ser Arg Ile Thr Arg Leu His Glu Val Gly Lys Ala Ser						
		180		185		190
Pro Ala Glu Val Ala Glu Ala Lys Ala Arg Val Ala Gln Asp Glu Met						
		195		200		205
Ser Ala Val Gln Ala Asp Asn Asn Tyr Arg Leu Ala Leu Leu Asp Leu						
		210		215		220
Ser Gln Leu Leu Glu Leu Pro Thr Pro Glu Asn Phe Ser Leu Ala Thr						
		225		230		235
Pro Asp Thr Glu Leu Glu Phe Ser Pro Leu Thr Ser Pro Asp Glu Ile						
		245		250		255
Tyr Asn Gln Ala Met Leu Tyr Lys Pro Gly Ile Lys Ala Ala Glu Tyr						
		260		265		270
Arg Leu Glu Gly Ser Glu Lys Asn Val Arg Ile Ala Lys Ser Ser Tyr						
		275		280		285
Tyr Pro Gln Leu Ser Phe Ser Ala Gly Leu Gly Thr Asn Phe Tyr Thr						
		290		295		300
Val Asn Gly Asn Ala Gly Ser Asn Phe Gly Asn Gln Met Lys Asn Asn						
305		310		315		320



Ile Leu Tyr Ala Glu Gln Lys Tyr Gly Leu Ser Ile Cys Tyr Glu Asp  
 50 55 60  
 Leu Arg Met Lys Gly Leu Asn Glu Ile Glu Leu Lys Asn Leu Ser Ile  
 65 70 75 80  
 Val Pro Arg Asn Arg Asp Thr Leu Leu Thr Leu His Thr Leu Asn Met  
 85 90 95  
 His Leu Asn Phe Trp Lys Leu Ile Arg Gly Ser Leu His Xaa Xaa Xaa  
 100 105 110  
 Gln Gln Arg Ser Xaa  
 115

<210> 10167

<211> 266

<212> PRT

<213> B.fragilis

<400> 10167

Val Leu Lys Asp Met Lys Gln Asn Tyr Ala Lys Ile Ile Ser Gly Phe  
 1 5 10 15  
 Ile Leu Ala Gly Leu Leu Thr Phe Ser Ser Cys Gln Ser Thr His Glu  
 20 25 30  
 Met Ala Lys Thr Asp Tyr Gln Ile Ala Lys Val Glu Gly Arg Met Ile  
 35 40 45  
 Asp Ile Asp Ala Lys Trp Asp Thr His Pro Asp Ala Asp Ala Val Ala  
 50 55 60  
 Ile Leu Lys Pro Tyr Lys Glu Lys Ile Asp Asn Met Met Tyr Glu Val  
 65 70 75 80  
 Ile Gly Ser Ser Glu Gln Lys Met Asp Lys Gly His Pro Glu Ser Leu  
 85 90 95  
 Leu Ser Asn Leu Val Ala Glu Val Leu Arg Gln Ala Ala Thr Lys Val  
 100 105 110  
 Gln Asp Lys Pro Ala Asp Met Gly Leu Val Asn Met Gly Gly Leu Arg  
 115 120 125  
 Asn Ile Leu Pro Ala Gly Asp Ile Thr Val Gly Thr Val Tyr Glu Ile  
 130 135 140  
 Leu Pro Phe Glu Asn Ser Leu Cys Val Met Lys Met Lys Gly Thr His  
 145 150 155 160  
 Leu Lys Ala Leu Leu Thr Ser Ile Ala Ser Leu Lys Gly Glu Gly Val  
 165 170 175  
 Ser Gly Ile Arg Met Glu Ile Thr Lys Asp Gly Lys Leu Leu Asn Ala  
 180 185 190  
 Thr Val Gly Gly Gln Pro Ile Asp Asp Asn Lys Leu Tyr Thr Val Ala  
 195 200 205  
 Thr Ile Asp Tyr Leu Ala Asp Gly Asn Gly Ser Met Glu Ala Phe Leu  
 210 215 220  
 Gln Ala Asp Asp Arg Val Cys Pro Glu Gly Ala Thr Leu Arg Gly Leu  
 225 230 235 240  
 Phe Leu Asp Tyr Val Arg Gln Gln Thr Ala Ala Gly Lys Lys Ile Thr  
 245 250 255  
 Ser Ala Leu Asp Gly Arg Ile Thr Val Lys  
 260 265

<210> 10168

<211> 724

<212> PRT

<213> B.fragilis

<400> 10168

Ser Thr Met Leu Lys Arg Thr Phe Ile Leu Ile Gly Leu Val Leu Ser

6011 10167 10168 724

1	5	10	15
Phe Cys Ser Leu Pro Ala Gln Glu Leu Ile Gln Ile Thr Thr Arg Asn			
20	25	30	
Thr Ala Leu Val Phe Arg Val Ala Asn Gln Ser Leu Arg Gln Val Tyr			
35	40	45	
Tyr Gly Pro Arg Leu Ala Asp Thr Asp Val Leu Gln Lys Gln Gly Asn			
50	55	60	
Asn Phe Pro Ala Tyr Ser Thr Tyr Gly Met Gly Glu Gln Asn Glu Val			
65	70	75	80
Ala Leu His Ala Val His Ala Asp Gly Asn Thr Ser Thr Leu Leu Asn			
85	90	95	
Phe Glu Asn Val Lys Gln Glu Ser Pro Glu Pro Gly Ile Thr Leu Thr			
100	105	110	
Thr Ile Ser Leu Lys Asp Pro Leu Tyr Pro Phe Gln Val Lys Leu Phe			
115	120	125	
Tyr Lys Ala Tyr Glu Glu Ser Asp Leu Ile Glu Gln Trp Thr Ile Tyr			
130	135	140	
Gln His Thr Glu Lys Lys Pro Val Thr Leu Tyr Gln Phe Ala Ser Ala			
145	150	155	160
Gln Leu Ser Phe Lys Ser Ser Ser Tyr Arg Leu Thr His Phe Ala Gly			
165	170	175	
Asp Trp Ala Gly Glu Cys Asn Met Ser Glu Val Glu Leu Thr Glu Gly			
180	185	190	
Ile Lys Val Ile Asp Ser Lys Leu Gly Thr Arg Ala Thr Phe Phe Ala			
195	200	205	
His Pro Met Cys Leu Leu Ser Leu Asn Gly Arg Met Thr Glu Asp Asn			
210	215	220	
Gly Glu Val Ile Gly Met Ala Leu Ala Trp Pro Ala Asn Phe Lys Leu			
225	230	235	240
Glu Phe Glu Lys Asn Asn Asn Gln Glu Leu Arg Val Leu Ala Gly Met			
245	250	255	
Asn Pro Tyr Ala Ser His Tyr Lys Leu Lys Lys Gly Asp Val Phe Gln			
260	265	270	
Thr Pro Ser Phe Leu Tyr Thr Tyr Ser Thr Lys Gly Asn Gly Gln Val			
275	280	285	
Ser Arg Asn Phe His Arg Trp Ala Arg Lys Tyr Gly Leu Arg His Gly			
290	295	300	
Glu Asn Ser Arg Tyr Thr Leu Met Asn Asn Trp Glu Ala Thr Tyr Phe			
305	310	315	320
Asn Phe Asn Glu Pro Lys Leu Lys Ser Ile Ile Glu Asp Ala Ala Gly			
325	330	335	
Met Gly Phe Glu Leu Phe Leu Leu Asp Asp Gly Trp Phe Gly Gln Lys			
340	345	350	
His Pro Arg Asn Asn Asp Asp Ala Gly Leu Gly Asp Trp Val Val Asn			
355	360	365	
Lys Glu Lys Leu Pro Asn Gly Leu Gly Trp Leu Val Lys Gln Cys Thr			
370	375	380	
Asp Asn Asp Ile Lys Phe Gly Ile Trp Val Glu Pro Glu Met Val Asn			
385	390	395	400
Pro Gln Ser Glu Leu Phe Glu Lys His Pro Asp Trp Val Ile Gln Gln			
405	410	415	
Pro Gly Arg Glu His Ile Leu Phe Arg Arg Gln Leu Val Leu Asp Leu			
420	425	430	
Ser Asn Pro Glu Val Gln Glu Phe Val Tyr Lys Ser Val His Asp Ile			
435	440	445	
Leu Lys Asp Asn Pro Gln Ile Ala Phe Val Lys Trp Asp Cys Asn Arg			
450	455	460	
Ala Val Thr Asn Pro Gly Ser Thr Tyr Leu Pro Ala Asp Glu Gln Ser			
465	470	475	480



His Ile Trp Ile Glu Tyr Gly Arg Gly Leu Leu Asn Val Phe Lys Lys  
 485 490 495  
 Val Arg Asp Ser His Pro Asp Val His Phe Met Leu Cys Ser Gly Gly  
 500 505 510  
 Gly Gly Arg Leu Asp Tyr Gly Ser Leu Arg Tyr Phe Glu Glu Tyr Trp  
 515 520 525  
 Pro Ser Asp Asn Thr Asp Ala Leu Gln Arg Ile Leu Ile Gln Trp Gly  
 530 535 540  
 Asn Ser Gln Phe Phe Pro Ser Ile Ala Met Cys Cys His Val Ser Ala  
 545 550 555 560  
 Ser Pro Asn His Gln Thr Gly Arg Thr Thr Pro Leu Lys Phe Arg Phe  
 565 570 575  
 Asp Val Ala Met Gln Gly Ala Leu Gly Met Asp Leu Gln Pro Ser Thr  
 580 585 590  
 Met Asn Glu Lys Glu Val Ile Phe Ala Lys Glu Ala Ile Lys Thr Tyr  
 595 600 605  
 Glu Ser Ile Arg Asn Ile Val Phe Thr Gly Asp Leu Tyr Arg Ile Leu  
 610 615 620  
 Ser Pro Tyr Glu Gly Asn Arg Thr Ser Met Met Tyr Val Leu Pro Asp  
 625 630 635 640  
 Lys Ser Arg Ala Val Phe Tyr Ala Tyr Gln Leu Lys Ser His Ile Gly  
 645 650 655  
 Glu Val Ser Ala Pro Met Arg Phe Lys Gly Leu Ser Pro Asp Lys Lys  
 660 665 670  
 Tyr Asn Val Lys Glu Leu Asn Ile Tyr Pro Gly Ser Arg Ala Ala Thr  
 675 680 685  
 Gly Ser Ala Asn Gly Gln Ser Phe Ser Gly Asp Phe Leu Met Asn Gln  
 690 695 700  
 Gly Leu Pro Ile Gly Leu Ser Gly Asp Tyr Ser Ser Ala Val Ile Glu  
 705 710 715 720  
 Leu Glu Gln Gln

<210> 10169  
 <211> 1029  
 <212> PRT  
 <213> B.fragilis

<400> 10169  
 Val Leu Ile Gly Leu Gly Ile Ser Ala Gly Leu Leu Ser Pro Asn Tyr  
 1 5 10 15  
 Val Phe Ala Thr Ser Leu Glu Thr Tyr Glu Asn Gln Ser Val Ala Ala  
 20 25 30  
 Val Gln Gln Ala Arg Lys Ile Thr Gly Thr Leu Thr Asp Ala Val Gly  
 35 40 45  
 Glu Pro Ile Ile Gly Ala Thr Val Leu Glu Lys Gly Asn Pro Ser Asn  
 50 55 60  
 Gly Thr Ile Thr Asp Ile Asn Gly Lys Phe Ser Leu Ser Val His Pro  
 65 70 75 80  
 Asn Ala Val Ile Ser Ile Ser Tyr Ile Gly Tyr Ile Thr Gln Asn Ile  
 85 90 95  
 Lys Ile Thr Asn Gln Thr Ser Leu Lys Val Val Met Met Asp Asp Thr  
 100 105 110  
 Gln Ala Leu Glu Glu Val Val Val Val Gly Tyr Gly Ser Gln Lys Lys  
 115 120 125  
 Ala Asn Leu Thr Gly Ala Val Ser Ser Val Lys Met Asp Glu Val Leu  
 130 135 140  
 Gly Asp Arg Pro Ile Leu Asn Ala Ser Asp Ala Leu Gln Gly Ala Val  
 145 150 155 160

Pro Gly Leu Phe Val Ser Asn Gly Gly Asn Ala Pro Gly Thr Ser Lys  
 165 170 175  
 Ser Phe Gln Ile Arg Gly Ala Tyr Ser Val Gly Val Lys Asn Ser Asp  
 180 185 190  
 Gly Ser Tyr Gly Asn Thr Ile Lys Pro Leu Val Leu Ile Asp Asn Val  
 195 200 205  
 Glu Gly Asp Leu Asp Met Val Asn Pro Glu Asp Ile Glu Ser Ile Ser  
 210 215 220  
 Val Leu Lys Asp Ala Ala Ser Ala Ala Ile Tyr Gly Ala Arg Ala Ala  
 225 230 235 240  
 Gly Gly Val Ile Val Val Thr Thr Lys Arg Pro Lys Gly Ala Ala Lys  
 245 250 255  
 Phe Ser Leu Asn Tyr Asn Asn Asn Phe Ala Phe Gly Thr Ala Val Asn  
 260 265 270  
 Leu Pro Lys Gln Ala Pro Leu Met Asp Tyr Leu Gln Ala Tyr Leu Asp  
 275 280 285  
 Cys Gly Tyr Ser Asp Ala Tyr Trp Ser Leu Gly Ser Pro Ser Val Ser  
 290 295 300  
 Lys Trp Met Glu Tyr Leu Ser Glu Tyr Gln Lys Asn Pro Ser Ala Phe  
 305 310 315 320  
 Asn Thr Val Gly Asp Gly Ile Tyr Met Asp Glu Ser Gly Val Pro Tyr  
 325 330 335  
 Tyr Leu Asn Glu Lys Asp Leu Tyr Lys Asn Phe Met Glu Thr Ser Phe  
 340 345 350  
 Gln Met Thr His Asn Ile Ser Ala Ser Gly Gly Thr Asp Lys Leu Arg  
 355 360 365  
 Tyr Arg Ile Ser Gly Gly Tyr Thr Ser Asn Asp Gly Val Leu Val Ser  
 370 375 380  
 Asp Arg Asp Lys Phe Glu Arg Met Asn Ile Asn Thr Phe Ile Ser Ala  
 385 390 395 400  
 Asp Val Thr Asn Trp Phe Thr Gln Glu Val Thr Met Ser Tyr Ala His  
 405 410 415  
 Ser Leu Gln Thr Ser Pro Gly Gly Met Gly Gly Val Tyr Asn Thr Arg  
 420 425 430  
 Leu Val Ser Tyr Tyr Pro Glu Gly Asp Leu Pro Ala Ser Val Asn Thr  
 435 440 445  
 Leu Ala Asn Glu Asp Leu Pro Leu Phe Thr Pro Arg Asn Gln Ile Leu  
 450 455 460  
 Leu Ser Asn Pro Val Asn Asn Asn Asn Asp Asn Pro Arg Ile Phe Leu  
 465 470 475 480  
 Lys Ser Ile Leu Lys Pro Leu Lys Gly Leu Glu Ala Val Phe Glu Tyr  
 485 490 495  
 Thr Phe Asp Lys Asn Ile Tyr Asp Tyr His Trp Tyr Thr Gly Gln Tyr  
 500 505 510  
 Asp Tyr Thr Thr Ile Gln Gly Gly Ser Ser Lys Ser Phe Val Asp Asp  
 515 520 525  
 Tyr Leu Arg Lys Tyr Lys Gln His Thr Asn Tyr Asn Ala Ile Asn Val  
 530 535 540  
 Tyr Ala Thr Tyr Ser Lys Lys Phe Gly Asp His Asn Phe Lys Val Met  
 545 550 555 560  
 Ala Gly Phe Asn Gln Glu Ser Ser Tyr Gln Glu Thr Leu Asp Ala Tyr  
 565 570 575  
 Ser Tyr Asn Gln Ala Val Ile Asp Val Pro Ala Met Gly Ser Gly Thr  
 580 585 590  
 Gly Thr Ile Lys Ala Thr Asp Ser Tyr Ser Glu Tyr Ala Val Arg Gly  
 595 600 605  
 Gly Phe Phe Arg Val Asn Tyr Asn Tyr Gln Asp Lys Tyr Leu Leu Glu  
 610 615 620  
 Val Asn Gly Arg Tyr Asp Gly Ser Ser Lys Phe Pro Lys Ser Ser Arg

625		630		635		640
Phe Gly Phe Phe	Pro Ser Val Ser Ala Gly Trp Gln Ile Ala Gln Glu					
	645		650		655	
Lys Phe Met Glu Ser Thr Arg Asn Trp Leu Asp Gly Leu Lys Ile Arg						
	660		665		670	
Ala Ser Tyr Gly Val Ile Gly Asn Gln Asn Val Asn Pro Tyr Thr Phe						
	675		680		685	
Thr Pro Thr Met Ser Val Ser Asn Lys Ser Thr Ser Trp Ile Ile Asp						
	690		695		700	
Asn Thr Tyr Val Thr Ser Ile Ser Ser Leu Pro Ala Leu Val Ser Gln						
705		710		715		720
Asn Phe Thr Trp Glu Lys Val Gly Thr Val Asn Val Gly Leu Asp Ile						
	725		730		735	
Asn Leu Phe Asn Asn Arg Leu Asn Gly Val Phe Glu Trp Tyr Gln Arg						
	740		745		750	
Asn Thr Asn Gly Met Leu Ala Pro Gly Val Gln Leu Pro Ala Val Val						
	755		760		765	
Gly Ala Ser Ala Pro Tyr Gln Asn Thr Ala Asp Met Arg Thr Arg Gly						
	770		775		780	
Trp Glu Leu Ser Leu Asn Trp Arg Asp Gln Ile Gly Lys Val Gly Tyr						
785		790		795		800
Arg Leu Gly Phe Asn Leu Ser Asp Tyr Lys Ser Lys Ile Thr Lys Tyr						
	805		810		815	
Asp Asp Asn Ala Thr Thr Lys Leu Leu Ser Ser Phe Tyr Pro Gly Gln						
	820		825		830	
Val Met Gly Glu Ile Trp Gly Tyr Ile Ala Asp Gly Tyr Tyr Ser Val						
	835		840		845	
Asp Asp Phe Glu Asp Thr Ser Ser Trp Lys Leu Lys Glu Gly Ile Thr						
	850		855		860	
Ser Ile Asn Gly Tyr Asn Val Arg Pro Gly Asp Val Lys Phe Lys Asn						
865		870		875		880
Leu Arg Asp Asp Glu Ser Ser Thr Asn Val Ile Thr Ser Gly Asp Asn						
	885		890		895	
Thr Phe Asp Asn Pro Gly Asp Arg Lys Val Ile Gly Asn Thr Thr Pro						
	900		905		910	
Arg Tyr Gln Tyr Gly Ile Asn Leu Gly Ala Asn Tyr Ala Gly Phe Asp						
	915		920		925	
Leu Asn Val Ile Leu Gln Gly Thr Gly Lys Arg Asp Tyr Trp Ile Ser						
	930		935		940	
Asn Val Leu Thr Phe Pro Met Asn Gly Asp Asn Phe Ile Pro Leu Phe						
	945		950		955	
Asp Gly Leu Ser Asp Tyr Trp Met Pro Lys Asp Pro Asp Asn Gly Asp						
	965		970		975	
Trp Thr Ala Val Asn Pro Asn Ala Lys Tyr Pro Arg Leu Tyr Gly Asn						
	980		985		990	
Arg Gly Asn Ser Gly Ser Asn Leu Arg Gln Ser Asp Lys Tyr Leu Ser						
	995		1000		1005	
Asp Ala Ser Tyr Leu Arg Ile Lys Asn Ile Thr Leu Ser Tyr Asn Val						
	1010		1015		1020	
Phe Thr Thr Gly Leu						
1025						

<210> 10170  
 <211> 202  
 <212> PRT  
 <213> B.fragilis

<400> 10170  
 Ile Ile Asp Ile Phe Val Asp Tyr Phe Asn Leu Lys Thr Thr Thr Ser

1	5	10	15
Met Arg Ile Lys Leu Leu Phe Leu Ile Ser Ile Leu Phe Cys Thr Gly			
20		25	30
Ser Tyr Ala Gln Glu Thr Val Thr Glu Pro Asp Phe Ile Gly Glu Val			
35		40	45
Leu Val Leu Asn Pro Asp Asn Ser Thr Thr Pro Leu Glu Lys Ala Thr			
50		55	60
Val Lys Ile Lys Thr Lys Ala Asn Ala Ser Ile Tyr Leu Val Gly Met			
65		70	75
Gly Lys Val Lys Thr Lys Ile Asn Val Asp Gly Pro Ser Ala Gln Val			
85		90	95
Arg Leu His Gln Gly Asp Asp Phe Lys Leu Ile Val Arg Ala Val Asp			
100		105	110
Asn Asn Thr Asp Pro Met Ser Ile Ile Asn Ile Phe Gln Phe Glu Thr			
115		120	125
Gly Lys Lys Val Arg Lys Ala Glu Leu Ser Ser Leu Ser Thr Phe Gly			
130		135	140
Gly Ala Ser Ser Asn Asn Leu Glu Leu Leu Pro Tyr Thr Ala Lys Lys			
145		150	155
Tyr Gly Glu Ser Ser Tyr Leu Ile Thr Leu Lys Glu Lys Pro Val Gly			
165		170	175
Glu Tyr Gly Ile Thr Val Arg Asn Pro Asn Ser Leu Asp Glu Lys Asn			
180		185	190
Ile Ile Val Ala Ser Phe Gly Ile Asp Gln			
195		200	

&lt;210&gt; 10171

&lt;211&gt; 538

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10171

Asp Arg Phe Ile Ser Gly Ser Leu Gly Thr Glu Ser Ile Lys Gly Glu			
1	5	10	15
Thr Ser Gly Gly Pro Leu Ser Glu Tyr Thr Arg Val Tyr Arg Ile Lys			
20		25	30
Arg Arg Tyr Arg Asp Asn Leu Asn Ser Ser Phe Asn Lys Asn Lys Asn			
35		40	45
Asp Met Arg Asn Ile Gln Arg Thr Ile Leu Trp Ile Ala Gly Leu Leu			
50		55	60
Phe Cys Leu Pro Ser Ser Ser Ser Asn Pro Val Val Ile Gly Asn Ser			
65		70	75
Arg Phe Thr Phe Ile Thr Asp His Leu Val Arg Met Glu Tyr Ala Gln			
85		90	95
Gln Gly Lys Phe Leu Asn Asp Ser Thr Leu Phe Ala Val Asp Arg Thr			
100		105	110
Pro Arg Cys Thr Glu Val Lys Val Glu Arg Lys Glu Gly Asn Arg Tyr			
115		120	125
Ile Met Thr Thr Pro Ala Met Arg Ile Glu Tyr Tyr Asn Asp Gly Phe			
130		135	140
Pro Phe Gly Gln Thr Asn Leu Phe Val Tyr Phe Arg Asn Gly Asp Ser			
145		150	155
Pro Lys Glu Lys Arg Trp Tyr Ile Ala Ser Arg Gln Ser Arg Asn Leu			
165		170	175
Leu Gly Ala Val Thr Thr Leu Asp Asp Val Glu Gly Pro Ile Asp Arg			
180		185	190
Gln Glu Gly Leu Leu Ser Arg Asp Gly Trp Tyr Leu Ile Asn Asp Thr			
195		200	205
Gly Lys Glu Val Leu Lys Asn Gly Trp Val Ala Thr Arg Asp Arg Asn			

210	215	220
His Val Gln Asp Leu Tyr Leu Phe Val Tyr Gly Asn Asp Tyr Lys Ala		
225	230	235
Ala Leu Lys Ser Leu Gln Ala Val Ser Gly Pro Ser Pro Met Thr Arg		240
	245	250
Lys Tyr Val His Gly Ser Trp Tyr Cys Arg Trp Trp Asn Tyr Thr Asp		255
	260	265
Glu Asp Tyr Arg Gln Leu Val Arg Glu Tyr Arg Glu His Asp Phe Pro		270
	275	280
Leu Asp Ile Met Val Phe Asp Met Gly Trp His Thr Gln Asn Ala Lys		285
	290	295
Val Gly Thr Gly His Ala Gly Thr Arg Gly Trp Thr Gly Tyr Ser Trp		300
305	310	315
Asn Arg Lys Leu Ile Pro Glu Pro Glu Lys Leu Ile Lys Asp Phe Lys		320
	325	330
Asp Asp His Ile Tyr Val Val Leu Asn Glu His Pro His Asp Gly Ile		335
	340	345
Arg Pro His Glu Asp Ser Tyr Gln Ala Phe Val Arg Asp Leu Gly Val		350
	355	360
Asp Thr Gln Gln Thr Gly Val Pro Leu Phe Asp Ala Gly Asn Arg Asp		365
370	375	380
Tyr Met Asn Ala Phe Met Lys His Ala His Gln Glu Ser Asp Ser Met		385
	390	395
Gly Val Ala Phe Trp Trp Leu Asp Trp Gln Gln Asp Tyr Leu Tyr Pro		400
	405	410
Leu Val Arg Gly Thr Asn Met Lys His Leu Pro Trp Met Asn Arg Ile		415
	420	425
Tyr Tyr Asn Tyr Ser Ser Gly Asn His Leu Arg Gly Ala Gly Phe Ser		430
	435	440
Arg Trp Ala Gly Trp Gly Asp His Arg His Pro Ile Gln Phe Ser Gly		445
	450	455
Asp Ala Val Gly Asn Trp Asp Leu Leu Arg Phe Glu Val Asp Leu Thr		460
465	470	475
Thr Thr Ser Gly Asn Ala Gly Cys Phe Phe Trp Ala His Asp Leu Gly		480
	485	490
Gly Phe Tyr Asp Gly Thr Asp Pro Glu Leu Tyr Thr Arg Trp Thr Gln		495
	500	505
Phe Gly Leu Asn Ser Ser Leu Arg Ile His Ser Val Tyr Asp Glu		510
	515	520
Asn Ser Thr Ala Val Pro Gly Ser Gly Ala		525
530	535	

<210> 10172  
 <211> 436  
 <212> PRT  
 <213> B.fragilis

<400> 10172  
 Cys Leu Thr Ile Arg Gln Gly Trp Ile His Glu Ile Lys Thr Asp Ile  
 1 5 10 15  
 Asn Met Ile Asp Ile Trp Gln Glu Ile Tyr Gly Thr Ile Lys Arg Asn  
 20 25 30  
 Lys Leu Arg Thr Leu Leu Thr Gly Phe Ala Val Ala Trp Gly Ile Phe  
 35 40 45  
 Met Leu Ile Val Leu Leu Gly Ala Gly Asn Gly Leu Ile His Ala Phe  
 50 55 60  
 Glu Lys Ser Ser Ser Ala Arg Ala Leu Asn Ser Ile Lys Ile Tyr Pro  
 65 70 75 80  
 Gly Trp Thr Gly Lys Pro Tyr Asp Gly Leu Lys Glu Gly Arg Arg Ile

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<210> 10173
<211> 280
<212> PRT
<213> B.fragilis
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<400> 10173															
Ser	Arg	Leu	Ile	Met	Arg	Val	Asp	Met	Asp	Thr	Cys	Glu	Glu	Ile	Leu
1				5					10					15	
Val	Thr	Ile	Thr	Arg	Asn	Lys	Thr	Arg	Ser	Leu	Leu	Thr	Ala	Phe	Gly
			20					25					30		
Val	Phe	Trp	Gly	Ile	Phe	Met	Leu	Val	Ala	Leu	Met	Gly	Gly	Gly	Gln
		35					40					45			
Gly	Met	Gln	Glu	Met	Met	Gln	Ala	Glu	Phe	Glu	Gly	Phe	Ala	Thr	Asn

50		55		60
Ser Gly Phe Met Ala	Ser Gln Lys Thr Gly Glu Ala Tyr Lys Gly Phe			
65	70	75	80	
Arg Lys Gly Arg Tyr Trp Asp Ile Glu Asn Ala Asp Ile Glu Arg Ile				
	85	90	95	
Arg Lys Lys Val Lys Asp Ile Asp Val Ile Thr Pro Ser Ile Ala Arg				
	100	105	110	
Trp Gly Ser Thr Ala Ile Tyr Gly Glu Lys Lys Tyr Asp Cys Ser Val				
	115	120	125	
Lys Gly Leu Tyr Pro Asp Tyr Ala Lys Ile Glu Asn Gln Asp Met Ala				
	130	135	140	
Tyr Gly Arg Phe Ile Asn Asp Val Asp Val Arg Glu Gly Arg Lys Val				
	145	150	155	160
Cys Val Ile Gly Lys Arg Val Tyr Glu Ser Leu Phe Asn Pro Gly Glu				
	165	170	175	
Asp Pro Cys Gly Lys Tyr Val Arg Val Asp Gly Ile Tyr Tyr Gln Val				
	180	185	190	
Ile Gly Met Cys Val Ser Glu Gly Asn Met Asn Ile Gln Gly Arg Ala				
	195	200	205	
Ser Glu Ala Val Val Leu Pro Phe Ser Thr Met Gln Gln Ala Tyr Asn				
	210	215	220	
Met Gly Lys Arg Ile Asp Val Ile Cys Tyr Thr Val Lys Pro Gly Lys				
	225	230	235	240
Lys Val Ser Asp Leu Glu Pro Glu Ile Glu Ala Ile Leu Lys Glu Ala				
	245	250	255	
His Tyr Ile Ser Pro Asp Asp Lys Gln Ala Val Met Lys Leu Asn Ala				
	260	265	270	
Gly Gly His Val Leu Asn Asp Gly				
	275	280		

<210> 10174  
 <211> 183  
 <212> PRT  
 <213> B.fragilis

<400> 10174

Glu Lys Lys Ile Ala Thr Gln Glu Val Trp Leu Pro Gly Gly Thr Asp				
1	5	10	15	
Trp Tyr Asn Phe Phe Thr Gly Glu Arg Gln Glu Gly Gly Gln Val Ile				
	20	25	30	
Lys Thr Lys Ser Pro Leu Glu Gln Phe Pro Leu Phe Ile Lys Gly Gly				
	35	40	45	
Cys Pro Leu Pro Met Gln Pro Tyr Thr Glu Arg Met Cys Ser Thr Pro				
	50	55	60	
Leu Thr Glu Leu Ile Val Arg Cys Tyr Pro Gly Lys Glu Gly Ala Asn				
	65	70	75	80
Asn Thr Tyr Ile Leu Tyr Glu Asp Asp Gly Leu Thr Gln Asp Tyr Leu				
	85	90	95	
Gln Gly Lys Tyr Ala Thr Thr Arg Leu Asn Tyr Gln Lys Ser Gly Gly				
	100	105	110	
Gln Thr Ile Thr Val Ser Pro Val Glu Gly Thr Tyr Glu Gly Gln				
	115	120	125	
Pro Arg Lys Arg Ala Tyr Arg Ile Glu Leu Pro Gly Ile Pro Val Gln				
	130	135	140	
Ala Arg Val Ser Val Asn Gly Lys Lys Ala Arg Thr Thr Pro Asn Gln				
	145	150	155	160
Glu Leu Asn Gly Val Ile Val Pro Ile Lys Val Met Asp Ile His Lys				
	165	170	175	
Pro Ile Val Ile Lys Ile Gln				

180

<210> 10175  
 <211> 116  
 <212> PRT  
 <213> B.fragilis

<220>  
 <221> UNSURE  
 <222> (92)  
 <223> Identity of amino acid sequences at the above locations are unknown.

<400> 10175  
 Pro Trp Arg Ile Leu Arg Arg Asn Arg Pro Gly Thr Leu His Ser Leu  
 1 5 10 15  
 Asp Thr Val Arg Ile Ala Glu Phe Phe Thr Pro His Pro Leu Gly Val  
 20 25 30  
 Arg Arg Lys Leu Asp Arg Arg Pro Trp Leu Trp Gly Val Glu Ala Glu  
 35 40 45  
 Lys Ala Met His Arg Ile Tyr His Leu Arg Ser Gln Leu Met Pro Tyr  
 50 55 60  
 Ile Tyr Ser Ser Val Arg Gln Cys His Thr Asp Met Leu Pro Leu Asn  
 65 70 75 80  
 Arg Gly Met Tyr Ile Glu Tyr Pro Asp Glu Xaa Ala Tyr Gln Tyr  
 85 90 95  
 Pro Gly Gln Phe Leu Phe Gly Asp Leu Leu Leu Gly Ala Pro Ile Thr  
 100 105 110  
 Ala Lys Gly Glu  
 115

<210> 10176  
 <211> 291  
 <212> PRT  
 <213> B.fragilis

<400> 10176  
 Ile Met Ile Phe Pro Ile Asn Lys Lys His Thr Phe Phe Ser Lys Glu  
 1 5 10 15  
 Lys Thr Leu Leu Thr Phe Phe Phe Ile Leu Phe Ile Ser Phe Ser Ala  
 20 25 30  
 Phe Gly Gln Gln Asp Lys Lys Leu Ile Leu Leu Gln Thr Ser Asp Val  
 35 40 45  
 His Ser Arg Leu Glu Pro Ile Asn Gln Glu Gly Asp Arg Asn Tyr Asp  
 50 55 60  
 Lys Gly Gly Phe Val Arg Arg Ala Thr Phe Val Lys Glu Phe Arg Lys  
 65 70 75 80  
 Glu His Pro Asp Met Leu Leu Phe Asp Cys Gly Asp Ile Ser Gln Gly  
 85 90 95  
 Thr Pro Tyr Tyr Asn Met Phe Gln Gly Glu Val Glu Val Lys Met Met  
 100 105 110  
 Asn Glu Met Lys Tyr Asp Ala Met Thr Ile Gly Asn His Glu Phe Asp  
 115 120 125  
 Phe Asp Leu Asp Asn Met Ala Arg Leu Phe Arg Met Ala Asp Phe Pro  
 130 135 140  
 Val Val Cys Ala Asn Tyr Asp Val Ser Ala Thr Val Leu Lys Asp Leu  
 145 150 155 160  
 Val Lys Pro Tyr Val Val Phe Glu Arg Asp Gly Val Lys Ile Gly Val  
 165 170 175  
 Leu Gly Leu Gly Cys Gln Leu Glu Gly Met Val Gln Ala Asn Lys Cys



Val	Gly	Val	Val	Tyr	Asn	Asp	Pro	Val	Thr	Val	Ala	Asn	Glu	Val	Ala
		180						185					190		
Ala	Leu	Leu	Lys	Glu	Lys	Glu	Gly	Cys	Asp	Val	Val	Val	Cys	Leu	Ser
		195						200					205		
His	Leu	Gly	Val	Gln	Tyr	Asp	Glu	Asn	Gln	Leu	Ile	Pro	Lys	Thr	Arg
		210						215					220		
Asn	Ile	Asp	Val	Val	Leu	Gly	Gly	His	Ser	His	Thr	Phe	Met	Lys	Gly
				245					250					255	
Pro	Lys	Thr	Leu	Leu	Asn	Met	Asp	Gly	Lys	Asn	Val	Ser	Leu	Met	His
			260					265					270		
Thr	Gly	Lys	Ser	Gly	Ile	Tyr	Val	Gly	Gln	Met	Asp	Leu	Thr	Leu	Glu
		275					280					285			
Lys	Lys	Lys													
		290													

<210> 10177  
 <211> 114  
 <212> PRT  
 <213> B.fragilis

<400> 10177

Met	Asn	Asn	Ser	Lys	Ile	Ile	Asn	Val	Arg	Leu	Met	Lys	Lys	Val	Leu
1				5					10					15	
Val	Leu	Val	Leu	Ser	Phe	Leu	Ser	Val	Thr	Ala	Phe	Ala	Gln	Asn	Ile
			20					25					30		
Thr	Val	Lys	Gly	Ile	Val	Lys	Asp	Gly	Thr	Gly	Glu	Pro	Ile	Ile	Gly
		35					40					45			
Gly	Ser	Val	Leu	Val	Lys	Gly	Ser	Ser	Ile	Gly	Thr	Val	Thr	Asp	Val
		50				55					60				
Asp	Gly	Asn	Tyr	Thr	Leu	Ser	Asn	Val	Pro	Ala	Asp	Gly	Val	Leu	Glu
		65			70					75				80	
Phe	Ser	Tyr	Ile	Gly	Met	Lys	Lys	Gln	Asp	Val	Lys	Val	Ser	Gly	Lys
			85					90						95	
Thr	Val	Ile	Asn	Val	Val	Leu	Gln	Glu	Asp	Thr	Gln	Ile	Leu	Asp	Glu
			100					105					110		
Val	Gly														

<210> 10178  
 <211> 118  
 <212> PRT  
 <213> B.fragilis

<400> 10178

Ala	Gly	Glu	Pro	Ala	Phe	Cys	Asp	Glu	Asn	Pro	Ile	Asp	Cys	His	Phe
1				5					10					15	
Asp	Val	Lys	Ser	Tyr	Pro	Ala	Gly	Thr	Thr	Val	His	Asn	Asn	Asp	Thr
		20						25					30		
Asn	Ile	Ile	Tyr	Leu	Ile	Phe	Cys	Met	Lys	Gly	His	Ala	Arg	Ile	Thr
		35					40					45			
Ser	Thr	Phe	Phe	His	Asp	Glu	Ile	Leu	Cys	Ala	Gly	Glu	Val	Met	Phe
		50				55					60				
Val	Pro	Arg	Gly	Ser	Glu	Tyr	Ser	Gly	Val	Ala	Leu	Ser	Asp	Val	Thr
		65			70					75				80	
Leu	Leu	Val	His	Lys	Phe	Asn	Asn	Thr	Val	Cys	Gln	Thr	Glu	Asn	Cys
			85					90						95	
Ile	Leu	Ser	Tyr	Leu	Tyr	Ser	His	Lys	Asn	Ile	Asp	Ser	Lys	Ile	Tyr
			100					105					110		

Cys Cys Gln Arg Arg Thr  
115

<210> 10179

<211> 301

<212> PRT

<213> B.fragilis

<400> 10179

Arg	Arg	Gln	Ala	Met	Met	Asn	Lys	Phe	Leu	Asn	Thr	Lys	Val	Leu	Tyr
1				5					10					15	
Ile	Phe	Ile	Ser	Val	Ile	Ile	Phe	Ile	Met	Val	Phe	Leu	Leu	Val	Met
			20					25					30		
Arg	Ala	Cys	Ser	Gln	Lys	Gln	Pro	Ile	Gln	Ala	Val	Val	Thr	Pro	Ser
	35						40					45			
Asp	Pro	Val	Val	Gly	Glu	Glu	Ile	Phe	Phe	Ser	Asp	Ser	Thr	Ser	Gly
	50					55					60				
Ala	Arg	Ile	Trp	Tyr	Trp	Glu	Phe	Gly	Asn	Asn	Glu	Thr	Ser	Thr	Gln
65					70				75						80
Arg	Ser	Gly	His	His	Arg	Phe	Lys	Gln	Lys	Gly	Val	Tyr	Lys	Ile	Arg
			85						90					95	
Leu	Thr	Val	Asn	Gly	Asn	Leu	Glu	Arg	Tyr	Phe	Asp	Val	Arg	Val	Lys
			100					105					110		
Glu	Lys	Thr	Asn	Thr	Glu	Asp	Leu	His	Leu	Val	His	Ile	Ile	Ala	Pro
		115					120					125			
Lys	Glu	Ala	Ile	Gln	Gly	Glu	Asn	Ile	Ile	Phe	Arg	Gly	Glu	Gly	His
	130					135					140				
Asp	Glu	Gln	Trp	Arg	Trp	Glu	Phe	Gly	Glu	Thr	Gly	Met	Ile	Asp	Ser
145					150					155				160	
Arg	Glu	Lys	Thr	Ala	Leu	Tyr	Ala	Tyr	Thr	Glu	Pro	Gly	Glu	Tyr	Glu
				165					170					175	
Val	Leu	Leu	Asn	Thr	Glu	Asn	Thr	Arg	Tyr	Pro	Ile	Arg	His	Arg	Ile
			180					185					190		
Asn	Ile	Leu	Pro	Tyr	Tyr	Ser	Glu	Asn	Asp	Ser	Thr	Asp	Val	Met	Val
	195						200					205			
Leu	Ile	Gly	Leu	Asp	Ile	Lys	Glu	Lys	Leu	Gln	Asn	Ile	Ala	Asp	Gly
	210					215					220				
Lys	Pro	Phe	Asn	Val	Asn	Tyr	Asn	Tyr	Val	Val	Asp	Lys	Tyr	Phe	Asn
225					230					235					240
Asn	Asn	Pro	Asn	Thr	Leu	Val	Val	Ile	Asn	Asn	Asn	Lys	Tyr	Asn	Asp
			245					250						255	
Phe	Tyr	Ser	Tyr	Cys	Gln	Gly	Leu	His	His	Ile	Gly	Arg	Lys	Glu	Thr
			260					265					270		
Ile	Ile	Gln	Asn	Val	Ile	Val	Glu	Thr	Glu	Asp	Glu	Glu	Ser	Gly	Tyr
		275					280					285			
Ile	Thr	Gln	Leu	Thr	Val	Met	Gln	Ile	Glu	Lys	Lys	Lys			
	290					295						300			

<210> 10180

<211> 311

<212> PRT

<213> B.fragilis

<400> 10180

Thr	Gly	Asn	Lys	Pro	Met	Ile	Lys	Thr	Val	Ile	Thr	Gln	Leu	Tyr	Ile
1				5					10					15	
Ala	Phe	Cys	Leu	Ile	Cys	Phe	Phe	Ala	Cys	Glu	Lys	Gln	Lys	Glu	Glu
			20					25					30		
Phe	Pro	Asp	Ile	Arg	Ile	Gly	Lys	Glu	Gly	Val	Val	Asp	Glu	Leu	Ser

35	40	45
Leu Asn Lys Gln Thr Glu Lys Arg Leu Leu Leu Ser Gly Gly Asn Gly		
50	55	60
Lys Tyr Ile Val Asn Val Glu Asn Ala Gln Ile Ala Thr Ala Asp Ile		
65	70	75
Ser Met Asp Thr Leu Lys Val Lys Gly Trp Leu Glu Gly Glu Thr Phe		
85	90	95
Ala Thr Ile Ile Ser His Asp Lys Arg Ile Arg Leu Lys Ile Asn Val		
100	105	110
Val Phe Pro Glu Leu Gly Ile Ser His Ser Val Val Gln Leu Leu Pro		
115	120	125
Arg Phe Arg Ser Lys Phe Ile Ser Ile Ser Gly Gly Gly Glu Leu Thr		
130	135	140
Lys Leu Glu Glu Asp Asp Pro Ala Asp Ile Met Asp Met Lys Trp Asp		
145	150	155
Gly Ser Thr Gly Met Leu Glu Ile Tyr Pro Lys Tyr Glu Gly Glu Ala		
165	170	175
Arg Val Ile Ala Ile Ser Glu Asp Ala Lys Glu Lys Lys Val Ile His		
180	185	190
Ile Lys Val Arg Pro Glu Gly Lys Leu Glu Ile Pro Gly Trp Tyr Ser		
195	200	205
Thr Asn Ser Ser Ser Tyr Tyr Leu Ile Gln Asn Asn Asn Met Val Val		
210	215	220
Lys Arg Lys Gly Val Gly Thr Trp Ile Val Asn Ser Ala Arg Pro Tyr		
225	230	235
Gly Gly Gly Val Met Tyr Asn Ser Ser Tyr Ile Lys Ile Ala Pro Ile		
245	250	255
Met Asn Pro Val Gln Gly Asp Ser Ile Asp Leu Asn Ile Leu Arg His		
260	265	270
Gly Ser Leu Lys Pro Gln Ile Thr Glu Gly Ile His Arg Leu Tyr Val		
275	280	285
Glu Glu Val Arg Glu Ser Glu Val Met Leu Arg Gly Arg Gly Phe Lys		
290	295	300
Phe Leu Leu Pro Tyr Glu Lys		
305	310	

&lt;210&gt; 10181

&lt;211&gt; 281

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10181

Arg Leu Cys Lys Ser Lys Lys Arg Asn Glu Met Arg Lys Leu Phe Val	
1	5
Leu Leu Ile Ser Ile Val Val Leu Ser Ala Cys Ala Pro Val His Arg	
20	25
Phe Thr Gln Leu Arg Lys Leu Pro Arg Glu Tyr Ser Asp Asn Tyr Ser	
35	40
Ile Glu Gly Ile Lys Ala Pro Arg Ser Ala Ala His Arg Lys Pro Trp	
50	55
Ile Val Tyr Ser Asp Arg Val Glu Asn Ala Ala Tyr Val Asn Pro Gly	
65	70
Gly Arg Val Lys Ser Ala Glu Val Gly Leu Leu Asp Thr Phe Leu Val	
85	90
Ile Lys Thr Lys Gly Asp Tyr Leu Arg Leu Ile Lys Tyr Asn Pro Thr	
100	105
Asn Ile Lys His Asn Arg Met Thr Gln Arg Lys Lys Ala Glu Tyr Val	
115	120
Gly Trp Met His Arg Ser Arg Leu Ile Leu Ser Pro Ser Ser Ile Thr	
	125

130	135	140
Asp Val Gln Ser Gly	Leu His Asp Lys Leu Leu Thr Ala Ile Thr Asp	
145	150	155
Thr Thr Ala Ile Met	Gln Ser Ala Thr Tyr Phe Thr Thr Ala Asp Ser	160
	165	170
Leu Lys Val Phe Gly	Asp Pro Glu Leu Gln Asn Gln Thr Gly Val Val	175
	180	185
Gly Ile His Ala Ile Ile Tyr	Ala Leu Lys His Ser Val Asp Lys Arg	190
	195	200
Ser Val Leu Val Ser Lys Thr	Pro Ser Leu Ser Ala Asp Lys Ile Gly	205
210	215	220
Glu Gln Val Ile Gly Trp	Val Pro Ala Val Met Leu Gln Glu Ile Gly	
225	230	235
His Gln Val Phe Thr Gly Thr	Ala Phe Ser Arg Val Pro Thr Leu Gln	240
	245	250
Lys Thr Leu Lys Tyr Ala Pro	Met Ile Tyr Pro Tyr His Thr Asp Ser	255
	260	265
Thr Cys Ser Phe Val Ser Gly	Thr Leu	270
	275	280

&lt;210&gt; 10182

&lt;211&gt; 518

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10182

Pro Val Ile Asp Lys Lys Asp Asn His Val Phe Asn Ile Asn Gly Lys	
1	5
Arg Ile Ser Tyr Thr Arg Gly Asn Gln Ile Lys Gln Glu Leu Lys Arg	10
	20
Ile Asn Ile Leu Phe Ala Met Glu Gln Ser Ser Arg Leu Pro Glu Gln	25
	35
Tyr Pro Met Leu Leu Asn Ala Ile Gln Asn Leu Gly Pro Phe Phe Ala	40
	50
Gly Ser Gly Glu Ser Phe Ser Tyr Gln Phe Gly Ala Ala Val Ala Thr	55
65	70
Pro Arg Gly Met Glu Thr Ile Pro Leu Thr Ala Asp Tyr Glu Ile Leu	75
	85
Ile Asp Arg Leu Val Lys Met Ala Ser Tyr Val Ala Asp Thr Glu Asn	90
	100
Thr Pro Leu Pro Ala Trp Lys Ala Met Arg Ser Ala Leu Glu Leu Ile	105
	115
Gly Asn Thr Pro Glu Ala Val Asn Leu Ile Ile Ser Val Gly Glu Thr	120
	130
Gly Glu Gln Gln Glu Asn Ala Pro Ser Ser Ile Val Lys Thr Leu Asn	135
145	150
Glu Lys Asn Cys Arg Leu Leu Gly Trp Gln Leu Tyr Ala Ser Asn Asp	140
	165
Asp Lys Tyr Asn Asn Tyr Val Leu Gln Leu Ser Asn Met Ile Glu His	170
	180
Tyr Ala Glu Tyr Arg Thr Lys Asn Lys Arg Asn Met Ile Leu Tyr Ala	185
	195
Asp Gln Phe Cys Arg Ser Asn Leu Leu Arg Glu Ala Gly Pro Asn Phe	200
210	215
Leu Met Leu Asp Tyr Pro Tyr Ala Ser Met Thr Gln Gly Gly Phe Leu	220
225	230
Phe Pro Glu Lys Gly Glu Thr Leu Pro Met Glu Leu Phe Ala Gly Ala	235
	245
Val Asp Ser Ile Val Thr Gln Ile Lys Ala Asp His Gln Leu Leu Ser	250
	255

260 265 270  
 Glu Ser Ile Asp Arg Ala Phe Ala Thr Val Gly Asn Gly Lys Asp Arg  
 275 280 285  
 Leu Asp Ser Leu Leu Ile Ala Thr Tyr His Leu Pro Gln Gly Val Lys  
 290 295 300  
 Pro Asn Lys Glu Phe Lys Lys Ile Phe Gly Asp Val Ala Pro Ile Trp  
 305 310 315 320  
 Tyr Arg Lys Thr Glu Arg Ile Thr Val Pro Asp Ser Leu Met Arg Tyr  
 325 330 335  
 Tyr Leu Leu Leu Ser Asp Pro Glu Leu Lys Gln Thr Ile Glu Arg Leu  
 340 345 350  
 Glu Thr Leu Cys Ala Ile Glu Val Asp Val Lys Asp Met Asn Lys Pro  
 355 360 365  
 Lys Lys Gly Lys Val Lys Gln Leu Cys Arg Tyr Leu Arg Glu Arg Val  
 370 375 380  
 Arg Pro Asp Lys Val Glu Thr Leu Gly Ala Ser Pro Ala Asn Pro Glu  
 385 390 395 400  
 Ser Lys Ala Asp Thr Val Tyr Val Ser Thr Gly Lys Ile Arg Arg His  
 405 410 415  
 Leu Tyr Arg Phe Tyr Met Ser Glu Leu Arg Asn Cys Arg Ile Cys Lys  
 420 425 430  
 Asn Lys Arg Lys Glu Ile Arg Arg Tyr Ser Leu Ser Tyr Ala His Ser  
 435 440 445  
 Gln Ile Phe Gly Val Pro Ala Asn Ser Pro Val Leu Asp Asp Ile Thr  
 450 455 460  
 Val Lys Glu Leu Lys Lys Lys Lys Gln Leu Thr Asp Lys Glu Leu Asp  
 465 470 475 480  
 Gly Leu Ile Gln Tyr Phe Lys Glu Arg Lys Glu Asn Met Ala Lys Lys  
 485 490 495  
 Tyr Gly Glu Glu Lys Ile Thr Met Glu Gly Gln Ser Tyr Tyr Tyr Ile  
 500 505 510  
 Ala Ser Glu Leu Leu Pro  
 515

&lt;210&gt; 10183

&lt;211&gt; 179

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10183

Asn Arg Lys Asp Met Ser Ile Thr Pro Lys Asn Lys Ser Ser Lys Thr  
 1 5 10 15  
 Val Ser Glu Arg Glu Arg Phe Ile Gly Phe Val Tyr Val Leu Thr Leu  
 20 25 30  
 Leu Ile Val Ile Thr Gly Ala Cys Gly Phe Ile Leu Phe Lys Tyr Ala  
 35 40 45  
 Gly Thr Arg His Ile Phe Ser Asn Lys Ile Met Val Ile Lys Lys Met  
 50 55 60  
 Glu Arg Gln Lys Glu Phe Gln Asn Ile Gln Ser Val Gln Ile Val Ser  
 65 70 75 80  
 Ala Asp Thr Leu Phe Ser Arg Ile Glu Gln Phe Glu Pro Gly Val Asn  
 85 90 95  
 Ala Ser Tyr Glu Glu Asn Asp Ile Lys Phe Leu Ile Asn Asp Leu Ala  
 100 105 110  
 Lys Gln Trp Glu Lys Asn Ser Phe Asp Lys Arg Asn Lys Met Phe Trp  
 115 120 125  
 His Leu Ala Ser Val Tyr Glu Met Trp Phe Ala Asp Lys Lys Glu Leu  
 130 135 140  
 Trp Ser Lys Gln Asp Asn Ile Ile Lys Phe Lys Lys Asn Leu Glu Glu

145 150 155 160  
 Cys Glu Val Gly Leu Gln Lys Lys Glu Gly Glu Leu Lys Asn Lys Gly  
 165 170 175

Gly Lys Pro

<210> 10184  
 <211> 106  
 <212> PRT  
 <213> B.fragilis

<400> 10184  
 Tyr Gly Asp Cys Ala Asp Pro Ser Ser Pro Val Val Glu Asp Met Gly  
 1 5 10 15  
 Ser Asn Asp Arg Leu Asn Gln Val Val Leu Gln Lys Val Ile Ser Thr  
 20 25 30  
 Arg Lys Met Glu Leu Ile Glu Glu Leu Gln Ile Met Asp Ser Lys Asp  
 35 40 45  
 Val Leu Leu Tyr Lys Lys Leu Ala Ser Gln Ile Asn Val Phe Leu Asp  
 50 55 60  
 Thr Lys Glu Ala Ile Arg Lys Ala Val Ile Glu Glu Ser Leu Val Arg  
 65 70 75 80  
 Lys Asp Leu Met Arg Cys Ile Gln Asp Asn Lys Gln Ala Thr Arg Lys  
 85 90 95  
 Leu Thr Leu Gly Asn Ile Ile Val Glu Lys  
 100 105

<210> 10185  
 <211> 318  
 <212> PRT  
 <213> B.fragilis

<400> 10185  
 Arg Asn Arg Leu Ala Leu Pro Pro Arg Val Lys Thr Glu Arg Arg Pro  
 1 5 10 15  
 Glu Ser Thr Gly Val Tyr Ala Leu Lys Ile Trp Leu Asn Gly Gly Ser  
 20 25 30  
 Val Phe Leu Ala Gln Pro Val Ser Val Lys Ala Gly Lys Gln Tyr Thr  
 35 40 45  
 Leu Ser Phe Trp Asn Lys Gly Ser Val Gly Asn Arg Glu Ile Val Val  
 50 55 60  
 Thr Leu Phe Trp Tyr Asp Asn Gly Ser Ile Lys Ser Arg Glu Lys Ile  
 65 70 75 80  
 Leu Ser Ile Arg Thr Gly Lys Asp Glu Trp Arg Arg Val Glu Ser Thr  
 85 90 95  
 Val Thr Ile Pro Glu Asn Ile His Ser Met Gly Met Gly Ile Arg Thr  
 100 105 110  
 Gln Ser Tyr Gln Gly Tyr Met Leu Ile Asp Asp Met Ser Leu Val Leu  
 115 120 125  
 Lys Glu Ser Gly Pro Asp Ile Ser Ala Val Pro Glu Ala Pro Asp Asn  
 130 135 140  
 Leu Arg Met Lys Ala Tyr Gln Asn Glu Met Glu Ile Cys Trp Asn Lys  
 145 150 155 160  
 Val Ser Asp Glu Thr Ile Lys Trp Glu Val Val Phe Asp Asp His Val  
 165 170 175  
 Glu Thr Ile Thr Phe Gly Asn Ser Tyr Val Lys Thr Lys Leu Ile Pro  
 180 185 190  
 Gly Ser Thr His His Ile Lys Val Arg Ala Gly Lys Gly Lys Glu Phe  
 195 200 205

Ser Pro Tyr Ala Glu Arg Arg Gly Ala Thr Glu Arg Met Arg Glu Ala  
 210 215 220  
 Glu Asn Ser Glu Asp Arg Ile Pro Tyr Leu Arg Thr Ile Leu Pro Asp  
 225 230 235 240  
 Gly Ser Cys Glu Gly Arg Phe Leu Lys Leu Tyr Tyr Asn Glu Leu Ala  
 245 250 255  
 Asn Pro Asn Ala Lys Val Ser Tyr Lys Leu Asp Gly Val Thr Ile Glu  
 260 265 270  
 Pro Lys Asp Asn Thr Leu Glu Phe Pro Glu Phe Glu Gly Phe Tyr Lys  
 275 280 285  
 Arg Phe Arg Leu Glu Val Tyr Ile Asp Glu Gly Glu Gly Arg Glu Trp  
 290 295 300  
 Glu Ile Leu Tyr Pro His Leu Gly Val Lys Arg Asn Glu Lys  
 305 310 315

<210> 10186  
 <211> 64  
 <212> PRT  
 <213> B.fragilis

<400> 10186  
 Val Met Leu Arg Cys Trp Phe Ile Asn Ser Ile Thr Gln Ser Ala Arg  
 1 5 10 15  
 Gln Lys Thr Val Ser Phe Pro Ile Phe Ile Arg Thr Arg Ile Leu Ile  
 20 25 30  
 Pro Lys Phe Ile Val Ala Lys Glu Arg Lys Lys His Val Tyr Ser  
 35 40 45  
 Leu Val Leu Val Thr Ile Leu Ile Lys Phe Tyr Cys Lys Tyr Lys Thr  
 50 55 60

<210> 10187  
 <211> 624  
 <212> PRT  
 <213> B.fragilis

<400> 10187  
 Gly Pro Ile Phe Leu Ser Gly Met Asn Ile Gln Asp Ala Glu Arg Ser  
 1 5 10 15  
 Leu Arg Arg Glu Phe Ser Lys Ile Tyr Ala Ala Ile Pro Gln Lys Thr  
 20 25 30  
 Val His Ile Glu Leu Ser Leu Gly Arg Ile Arg Thr Ile Met Ile Asn  
 35 40 45  
 Val Met Gly Glu Val Lys Val Pro Gly Ile Tyr Arg Leu Ser Ala Phe  
 50 55 60  
 Ala Ser Val Phe His Ala Leu Tyr Arg Ala Gly Gly Ile Ser Asp Ile  
 65 70 75 80  
 Gly Ser Leu Arg Asp Ile Arg Val Val Arg Asp Gly Lys Glu Ile Val  
 85 90 95  
 Arg Val Asp Val Tyr Asp Tyr Ile Met Lys Gly Lys Leu Thr Asp Asn  
 100 105 110  
 Ile Arg Leu Ser Glu Gly Asp Val Ile Leu Val Pro Pro Tyr Gln Asn  
 115 120 125  
 Leu Val Ser Ile Ser Gly Lys Val Lys Arg Pro Met Lys Tyr Glu Met  
 130 135 140  
 Lys Ser Gly Glu Thr Val Ala Thr Leu Leu Ser Tyr Ala Gly Gly Phe  
 145 150 155 160  
 Thr Gly Asp Ala Tyr Arg Ser Ala Ile Arg Leu Phe Arg Met Gly Gly  
 165 170 175  
 Lys Ala Lys Gln Val Tyr Asn Val Ala Gln Asp Asp Tyr Gln Ser Tyr

180	185	190
Leu Leu Ala Asp Gly Asp Lys	Leu Ser Val Glu Ala Val	Leu Glu Arg
195	200	205
Phe Ser Asn Lys Val Glu Ile Arg	Gly Ala Val Tyr Arg	Ala Gly Ile
210	215	220
Tyr Gln Leu Asp Asp Ser Val Thr	Gly Thr Val Arg	Gln Leu Ile Ser
225	230	235
Lys Ala Glu Gly Leu Arg Gly Asp	Ala Phe Leu Asn Arg	Ala Leu Leu
245	250	255
Arg Arg Gln Gln Glu Asp Leu Thr	His Glu Met Ile Pro	Val Asp Leu
260	265	270
Lys Lys Met Met Asp Asp Thr Ser	Ala Asp Leu Cys Leu	Gln Lys Asn
275	280	285
Asp Val Leu Tyr Ile Pro Ser Val	Lys Asp Ile Glu Lys	Glu Gly Thr
290	295	300
Leu Ser Ile Tyr Gly Asp Val Arg	Val Pro Gly Glu Phe	Pro Tyr Val
305	310	315
Lys Asn Thr Thr Ile Gln Asp Leu	Ile Val Lys Ala Gly	Gly Leu Pro
325	330	335
Glu Ser Ala Ser Met Val Arg Ile	Asp Val Ser Arg Arg	Ile Lys Asp
340	345	350
Pro Gly Ser Ile Leu Ser Ser Asn	Val Ile Gly Lys Ser	Phe Thr Val
355	360	365
Glu Leu Ala Asn Gly Leu Leu Ile	Gly Glu Asp Lys Gly	Phe Glu Leu
370	375	380
Glu Pro Tyr Asp Ile Val Phe Val	Arg Arg Ser Pro	Gly Tyr Arg Lys
385	390	395
Gln Ala Asn Val Thr Val Glu Gly	Glu Val Val Phe Thr	Gly Asn Tyr
405	410	415
Ala Leu Thr Lys Ser Asn Glu Arg	Leu Ser Ser Leu Ile	Ala Arg Ala
420	425	430
Gly Gly Leu Ser Lys Glu Ala Tyr	Val Arg Gly Ala Arg	Leu Ile Arg
435	440	445
Arg Met Thr Ala Asp Glu Ile Arg	Arg Lys Gln Asp	Val Val Arg Leu
450	455	460
Leu Val Lys Gly Ser Glu Glu Asn	Ser Ile Ser Pro	Val Ala Leu Glu
465	470	475
Thr Gly Ser Thr Tyr Pro Val Gly	Ile Glu Leu Glu Lys	Ala Leu Ile
485	490	495
Asn Pro Gly Ser Asp Glu Asp Met	Val Leu Arg Glu Gly	Asp Val Leu
500	505	510
Phe Ile Pro Lys Tyr Val Ser Thr	Val Thr Ile Ser Gly	Ala Val Met
515	520	525
Tyr Pro Asn Thr Ile Leu Tyr Gln	Lys Gly Ser Asn Leu	Asp Tyr Tyr
530	535	540
Ile Glu Gln Ala Gly Gly Phe Gly	Asn Arg Ala Leu Lys	Arg His Ile
545	550	555
Tyr Val Val Tyr Met Asn Gly Met	Val Ser Arg Leu Arg	Lys Ser Ala
565	570	575
Val Cys Ala Ile Glu Pro Gly Cys	Glu Ile Ile Val Pro	Ser Lys Glu
580	585	590
Asn Arg Lys Lys Thr Val Pro Arg	Asp Val Ala Gly Met	Asn Thr Ser
595	600	605
Ile Ala Ser Ile Ala Ala Met Val	Ala Ala Met Val Gly	Met Ile Lys
610	615	620

&lt;210&gt; 10188

&lt;211&gt; 132

&lt;212&gt; PRT



&lt;213&gt; B.fragilis

&lt;400&gt; 10188

Lys Lys Cys Val Ser Arg Lys Ser Cys Tyr Gly Glu Glu Val Ser Asn  
 1 5 10 15  
 Phe Cys Ser Leu Met Lys Ser Glu Ile Phe Val Arg Phe Val Ser Cys  
 20 25 30  
 Ile Ala Lys Lys Val Ser Cys Leu Lys Asp Met Ile Leu Lys Lys Thr  
 35 40 45  
 Asn Asp Lys Gly Ala Leu Leu Phe Ala Leu Phe Ile Leu Leu Ala Gly  
 50 55 60  
 Gly Ser Arg Ala Arg Gln His Met Lys Asp Asp His Val Ile Arg Gly  
 65 70 75 80  
 Lys Gln Val Ala Val Phe Gly Arg Asn Ile Phe Thr Ala Arg Asn Leu  
 85 90 95  
 Ser Phe Glu Pro Ser Leu Asp Ile Pro Thr Pro Glu Lys Tyr Val Ile  
 100 105 110  
 Arg Ser Gly Asp Glu Leu Ile Ile Asp Val Trp Gly Ala Ser Glu Ile  
 115 120 125  
 Gln Ser Gly Lys  
 130

&lt;210&gt; 10189

&lt;211&gt; 316

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10189

Tyr Thr Glu Pro Arg Cys Glu Asp Ala Val Ser Ala Phe Leu Tyr Tyr  
 1 5 10 15  
 Arg Lys Gly Tyr Asp Met Gly Ala Asp Phe Tyr Gln Val Val Ile Trp  
 20 25 30  
 Ser Phe Ile Val Leu Ala Ala Ser Glu Ala Ile Tyr Gly Leu Arg Gln  
 35 40 45  
 Leu Tyr Gly Phe Thr Ser Ser His His Ser Leu Tyr Ser Leu Thr Gly  
 50 55 60  
 Ser Phe Phe Asn Pro Gly Pro Tyr Ser Gly Tyr Leu Ala Met Ile Phe  
 65 70 75 80  
 Pro Leu Cys Leu Asp Gln Trp Leu Arg Leu Arg Lys Arg Glu Asn Lys  
 85 90 95  
 Asn Trp Met Glu Trp Thr Gly Tyr Tyr Gly Ala Val Ala Val Leu Phe  
 100 105 110  
 Leu Ile Leu Cys Val Leu Pro Ala Gly Met Ser Arg Ser Ala Trp Val  
 115 120 125  
 Ala Ala Leu Ile Ser Gly Ile Trp Val Tyr Gly Ala His Lys Ser Trp  
 130 135 140  
 Pro Val Arg Leu Lys Arg Val Trp Met Arg Lys Lys Thr Lys Val Leu  
 145 150 155 160  
 Ala Val Thr Ser Val Leu Cys Ile Val Val Leu Val Gly Gly Val Cys  
 165 170 175  
 Leu Phe Asn Leu Lys Lys Asp Ser Ala Ser Gly Arg Leu Phe Met Trp  
 180 185 190  
 Lys Ile Ser Ser Arg Ala Ile Ala Glu Lys Pro Phe Thr Gly Tyr Gly  
 195 200 205  
 Gln Gly Asn Phe Ala Leu Ala Tyr Gly Thr Ser Gln Glu Ala Tyr Phe  
 210 215 220  
 Ala Glu Arg Ser Tyr Ser Pro Gln Glu Glu Leu Val Ala Gly Ser Pro  
 225 230 235 240  
 Glu Tyr Ala Phe Asn Glu Tyr Leu Gln Ile Ala Leu Glu Trp Gly Ile

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<210> 10190
<211> 508
<212> PRT
<213> B.fragilis
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Asp 1	Pro	Val	Leu	Leu 5	Cys	Gly	Glu	Pro	Lys 10	Thr	Ile	Thr	Met	Lys 15	Lys
Ile	Tyr	Ser	Ile	Leu 20	Leu	Ala	Ser	Ala 25	Leu	Thr	Leu	Ser	Ser	Cys 30	Ala
Asp	Phe	Leu 35	Asp	Val	Asp	Ser	Gln 40	Gly	Lys	Leu	Thr	Glu 45	Asp	Val	Phe
Phe	Ser 50	Glu	Glu	Glu	Gly	Ala 55	Leu	Met	Ser	Ile	Asn 60	Ala	Ile	Tyr	Thr
Gln 65	Leu	Arg	Ala	Trp	Asp 70	Ile	Ile	Gly	Phe	Ser 75	Trp	Phe	Ala	Ile	Thr 80
Glu	Leu	Pro	Gly	Asp 85	Asn	Ser	Asp	Thr	Gly 90	Ser	Glu	Leu	Ala	Asp 95	Gly
Ser	Val	Ala	Arg 100	Leu	Asn	Gln	Phe	Asn 105	Asp	Phe	Thr	Tyr	Asp 110	Ala	Ser
Thr	Ser 115	Glu	Ile	Asn	Gly	Trp	Trp 120	Glu	Gly	Asn	Tyr	Lys 125	Ala	Ile	Ala
Ser	Cys 130	Asn	Val	Ala	Leu	Asp 135	Asn	Leu	Gly	Ala	Val 140	Lys	Asn	Glu	Glu
Leu 145	Arg	Val	Lys	Cys 150	Val	Ala	Gln	Ala	Arg	Phe 155	Phe	Arg	Gly	Phe	Phe 160
Tyr	Phe	Asn	Leu 165	Val	Arg	Ala	Phe	Gly	Gly 170	Val	Pro	Leu	Val	Thr 175	Lys
Val	Leu	Gln	Pro 180	Gly	Glu	Tyr	Asn 185	Gln	Pro	Arg	Ala	Thr 190	Glu	Glu	Ala
Val	Tyr 195	Gln	Gln	Ile	Ile	Glu	Asp 200	Leu	Thr	Tyr	Ala 205	Ala	Glu	His	Leu
Pro	Thr 210	Arg	Gln	Glu	Trp	Gly 215	Ala	Lys	Glu	Ser	Gly 220	Arg	Ala	Thr	Lys
Gly 225	Thr	Ala	Glu	Gly	Leu 230	Ala	Lys	Val	Tyr	Leu	Phe 235	Arg	Gln	Asp 240	
Tyr	Ala	Asn	Val 245	Lys	Tyr	Thr	Gly	Gln 250	Val	Ile	Ala	Arg	Gly 255	Glu	
Tyr	Ser	Leu	His 260	Arg	Asp	Tyr	Arg 265	Asp	Leu	Phe	Asn 270	Pro	Asn	Ser	Tyr
Tyr	Ser 275	Asp	Glu	Val	Met	Leu	Ala 280	Asp	Gln	Tyr	Leu 285	Trp	Gly	Glu	Ser
Thr	Glu 290	Arg	Asn	Leu	Glu	Ser 295	Glu	Tyr	Val	Lys	Trp 300	Gln	Gly	Ile	Arg
Gly 305	Glu	Met	Gly	Trp	Gly 310	Met	Phe	Ser	Pro	Ser 315	Glu	Ala	Leu	Asp	Gln
Ala	Tyr	Glu	Ala 325	Gly	Asp	Pro	Arg	Arg 330	Thr	Ala	Thr	Ile	Phe	Tyr 335	Asp
Gly	Glu	Thr	Leu	Glu	Gly	Lys	Gly	Glu	Ile	His	Phe	Lys	Lys	Glu	Val

				340				345				350			
Pro	Pro	Arg	Ala	Asn	Lys	Lys	Thr	Ile	Trp	Pro	Thr	Gly	Tyr	Trp	Asn
355				360				365							
Glu	Asn	Ser	Phe	Ala	Lys	Gln	Asn	Cys	His	Leu	Ile	Phe	Leu	Arg	Tyr
370				375				380							
Ala	Asp	Val	Leu	Leu	Met	Tyr	Ala	Glu	Ala	Cys	Asn	Glu	Leu	Gly	Glu
385				390				395				400			
Ser	Arg	Glu	Ala	Leu	Asp	Lys	Leu	Glu	Met	Val	Arg	Ala	Arg	Ala	Arg
405				410				415							
Arg	Thr	Val	His	Pro	Ala	Asp	Met	Thr	Val	Gly	Leu	Pro	Glu	Ile	Thr
420				425				430							
Glu	Thr	Gly	Lys	Glu	Lys	Leu	Arg	Glu	Ile	Ile	Trp	Asn	Glu	Arg	Arg
435				440				445							
Ile	Glu	Leu	Ala	Leu	Glu	Gly	His	Arg	Phe	Phe	Asp	Leu	Ile	Arg	Ala
450				455				460							
Asp	Lys	Val	Val	Pro	Gly	Tyr	Ala	Glu	Lys	Met	Met	Lys	Ala	His	Gly
465				470				475				480			
Lys	Thr	Asn	Phe	Ser	Ile	Ala	Lys	His	Ala	Thr	Phe	Phe	Ile	Pro	Gln
485				490				495							
Lys	Gln	Val	Asp	Ile	Ser	Gln	Gly	Val	Leu	Lys	Asn				
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<210> 10191
<211> 572
<212> PRT
<213> B.fragilis
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<400>	10191															
Val	Thr	Phe	Thr	Ser	His	Phe	Asn	Glu	Lys	Cys	Met	Lys	Lys	Phe	Leu	
1				5					10					15		
Asn	Arg	Arg	Asn	Gly	Val	Leu	Leu	Ala	Ala	Val	Leu	Val	Ala	Val	Ala	
			20					25					30			
Phe	Phe	Ser	Phe	Lys	Ser	Gly	Asp	Asp	Arg	Asn	Phe	Gln	Ile	Ala	Lys	
		35				40					45					
Asn	Leu	Asp	Thr	Phe	Asn	Ser	Ile	Val	Lys	Glu	Leu	Asp	Met	Phe	Tyr	
	50					55					60					
Val	Asp	Thr	Leu	Asp	Pro	Asn	Lys	Thr	Val	Arg	Glu	Gly	Ile	Asp	Tyr	
65					70					75					80	
Met	Leu	Ser	Ser	Leu	Asp	Pro	Tyr	Thr	Glu	Tyr	Tyr	Pro	Glu	Asp	Asp	
				85					90					95		
Gln	Ala	Glu	Leu	Gln	Gln	Met	Leu	Asn	Ala	Ser	Phe	Gly	Gly	Ile	Gly	
			100					105					110			
Ser	Leu	Ile	Thr	Tyr	Asn	Gln	Lys	Leu	Lys	Arg	Ser	Met	Ile	Ala	Glu	
		115				120						125				
Pro	Phe	Glu	Gly	Thr	Pro	Ala	Ala	Lys	Val	Gly	Leu	Lys	Ala	Gly	Asp	
	130					135					140					
Ile	Leu	Met	Glu	Ile	Asp	Gly	Lys	Asp	Leu	Ala	Gly	Lys	Asn	Asn	Gln	
145					150					155					160	
Glu	Val	Ser	Gln	Met	Leu	Arg	Gly	Ala	Val	Gly	Thr	Ser	Phe	Lys	Leu	
				165					170					175		
Lys	Val	Glu	Arg	Pro	Asp	Glu	Lys	Gly	Gly	Thr	Arg	Pro	Leu	Glu	Phe	
			180					185					190			
Asp	Ile	Val	Arg	Gln	Thr	Ile	Gln	Thr	Pro	Met	Ile	Pro	Tyr	Asp	Thr	
		195					200					205				
Ile	Phe	Asn	Lys	Asn	Val	Gly	Tyr	Ile	Asn	Leu	Ser	Thr	Phe	Ser	Gly	
	210					215					220					
Thr	Pro	Ser	Lys	Asp	Phe	Lys	Lys	Thr	Phe	Leu	Lys	Leu	Lys	Lys	Glu	
225					230					235					240	
Gly	Ile	Thr	Ser	Leu	Val	Ile	Asp	Leu	Arg	Gly	Asn	Gly	Gly	Gly	Arg	

245 250 255  
 Leu Glu Glu Ala Val Glu Ile Ala Asn Phe Phe Leu Pro Arg Gly Lys  
 260 265 270  
 Val Ile Val Thr Thr Lys Gly Lys Thr Lys Gln Ala Ser Asn Thr Tyr  
 275 280 285  
 Lys Thr Leu Arg Glu Pro Leu Asp Leu Asp Ile Pro Ile Thr Val Leu  
 290 295 300  
 Val Asn Gly Ala Thr Ala Ser Ala Ser Glu Ile Leu Ser Gly Ala Phe  
 305 310 315 320  
 Gln Asp Phe Asp Arg Ala Val Ile Val Gly Ser Arg Thr Phe Gly Lys  
 325 330 335  
 Gly Leu Val Gln Thr Thr Arg Pro Leu Pro Tyr Gly Gly Val Met Lys  
 340 345 350  
 Leu Thr Thr Ser Lys Tyr Tyr Ile Pro Ser Gly Arg Cys Val Gln Ala  
 355 360 365  
 Ile Asp Tyr Lys His Arg Asn Glu Asp Gly Ser Val Gly Thr Ile Pro  
 370 375 380  
 Asp Ser Leu Thr Thr Val Phe His Thr Ala Ala Gly Arg Glu Val Arg  
 385 390 395 400  
 Asp Gly Gly Gly Val Met Pro Asp Ile Glu Val Lys Gln Glu Lys Leu  
 405 410 415  
 Pro Asn Ile Leu Phe Tyr Leu Val Arg Asp Asn Leu Ile Phe Asp Tyr  
 420 425 430  
 Ala Thr Gln Tyr Cys Leu Lys His Pro Ser Ile Pro Ser Pro Gln Glu  
 435 440 445  
 Phe Lys Val Thr Asp Ala Asp Tyr Asn Asp Phe Lys Ala Met Val Lys  
 450 455 460  
 Lys Ala Asp Phe Lys Tyr Asp Gln Gln Ser Glu Lys Ile Met Lys Thr  
 465 470 475 480  
 Leu Lys Glu Ala Ala Lys Phe Glu Gly Tyr Leu Asp Glu Ala Ser Glu  
 485 490 495  
 Glu Ile Lys Ala Leu Glu Lys Lys Leu Thr His Asn Leu Asp Arg Asp  
 500 505 510  
 Leu Asp Tyr Phe Ser Lys Asp Ile Arg Ser Met Ile Ala Asp Glu Ile  
 515 520 525  
 Ile Lys Arg Tyr Tyr Tyr Thr Arg Gly Gly Ile Ile Gln Gln Leu Lys  
 530 535 540  
 Asp Asp Asp Gly Leu Gln Ala Ala Leu Lys Ile Leu Ala Asp Pro Val  
 545 550 555 560  
 Lys Tyr Lys Glu Thr Leu Ser Ala Pro Val Lys Lys  
 565 570

&lt;210&gt; 10192

&lt;211&gt; 71

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10192

Tyr Arg Ile Thr Met Lys Gln Phe Val Leu Phe Phe Ile Ser Leu Phe  
 1 5 10 15  
 Leu Leu Gly Val Gly Ala Arg Ser Gln Glu Met Tyr Gln Lys Lys Val  
 20 25 30  
 Phe Ile Ser Ser Arg Gly Asp Ser Leu Asn Tyr Arg Leu Leu Arg Pro  
 35 40 45  
 Glu Val Glu Lys Thr Gly Leu Arg Leu His His Gly Ala Gly Arg Ile  
 50 55 60  
 Gln Arg Trp Met Arg Phe Gln  
 65 70

<210> 10193  
 <211> 149  
 <212> PRT  
 <213> B.fragilis

<400> 10193

Leu	Val	Gln	Thr	Gly	Ala	Val	Gly	Ser	Asn	Ala	Gly	Lys	Arg	Val	Val
1				5				10					15		
Gln	Ala	Glu	Val	Gly	Ala	Val	Val	Pro	Pro	Val	Val	Tyr	Tyr	Pro	Cys
		20						25					30		
Gln	Ser	Phe	Asp	Gly	Lys	Val	Ala	Glu	His	Gly	Glu	Arg	Tyr	Ser	Pro
		35					40					45			
Leu	Asn	Phe	Lys	Val	Ala	Tyr	Gly	Thr	Ser	His	Gln	Ile	Gly	Phe	Ala
	50					55					60				
Val	Thr	Glu	Lys	Pro	Val	Glu	Ile	Ser	Leu	His	Asp	Val	Asp	Gly	Met
65					70					75					80
Asn	Ala	Pro	Glu	Arg	Cys	Gln	Leu	Phe	Val	His	Arg	Phe	Val	Gly	Asp
				85					90					95	
Asp	Gly	Ile	Arg	His	Val	Ile	Val	Ser	Val	Glu	Val	Pro	Pro	Ile	Arg
			100					105					110		
Glu	Ser	Asp	Thr	Pro	Val	His	Leu	Glu	Gln	Ile	Ala	Val	Ser	Thr	Leu
		115					120					125			
Ile	Ala	Gly	Gln	Gly	Ile	Ile	Leu	Phe	Gln	Val	Arg	His	Leu	Leu	Gln
	130						135					140			
Leu	Phe	Ile	Glu	Thr											
145															

<210> 10194  
 <211> 772  
 <212> PRT  
 <213> B.fragilis

<400> 10194

Ile	Asp	Thr	Lys	Thr	Val	Lys	Thr	Met	Lys	His	Phe	Val	Arg	Arg	Met
1				5				10					15		
Gln	Ala	Leu	Ala	Ala	Ser	Leu	Val	Val	Val	Ala	Ala	Gly	Leu	Gln	Ala
		20						25					30		
Gln	Lys	Ala	Pro	Arg	Asp	Met	Asp	Arg	Phe	Ile	Asp	Gln	Leu	Met	Lys
		35					40					45			
Lys	Met	Thr	Leu	Glu	Glu	Lys	Ile	Gly	Gln	Leu	Asn	Leu	Pro	Val	Thr
	50					55					60				
Gly	Glu	Ile	Thr	Thr	Gly	Gln	Ala	Lys	Ser	Ser	Asp	Val	Ala	Lys	Arg
65					70					75					80
Ile	Arg	Asn	Gly	Glu	Val	Gly	Gly	Leu	Phe	Asn	Leu	Lys	Gly	Val	Glu
				85					90					95	
Arg	Ile	Arg	Glu	Val	Gln	Arg	Gln	Ala	Val	Glu	Glu	Ser	Arg	Leu	Gly
			100					105					110		
Ile	Pro	Leu	Leu	Phe	Gly	Met	Asp	Val	Ile	His	Gly	Tyr	Glu	Thr	Ile
		115					120					125			
Phe	Pro	Ile	Pro	Leu	Gly	Leu	Ser	Cys	Thr	Trp	Asp	Met	Lys	Ala	Ile
	130						135					140			
Glu	Glu	Ser	Ala	Arg	Ile	Ala	Ala	Val	Glu	Ala	Ser	Ala	Asp	Gly	Ile
145					150					155					160
Ser	Trp	Thr	Phe	Ser	Pro	Met	Val	Asp	Val	Ser	Arg	Asp	Pro	Arg	Trp
				165					170					175	
Gly	Arg	Val	Ser	Glu	Gly	Asn	Gly	Glu	Asp	Pro	Phe	Leu	Gly	Ala	Ala
			180					185					190		
Ile	Ala	Arg	Ala	Met	Ile	Arg	Gly	Tyr	Gln	Gly	Lys	Asp	Met	Ser	Arg
		195					200						205		

Asn	Asp	Glu	Ile	Met	Ala	Cys	Val	Lys	His	Phe	Ala	Leu	Tyr	Gly	Ala
210						215					220				
Ser	Glu	Ala	Gly	Arg	Asp	Tyr	Asn	Thr	Val	Asp	Met	Ser	Arg	Gln	Arg
225					230					235					240
Met	Phe	Asn	Glu	Tyr	Met	Leu	Pro	Tyr	Gln	Ala	Ala	Val	Glu	Ala	Gly
				245					250					255	
Val	Gly	Ser	Val	Met	Ala	Ser	Phe	Asn	Glu	Val	Asp	Gly	Val	Pro	Ala
			260					265					270		
Thr	Gly	Ser	Lys	Trp	Leu	Met	Thr	Asp	Val	Leu	Arg	Lys	Gln	Trp	Gly
		275					280					285			
Phe	Asp	Gly	Phe	Val	Val	Thr	Asp	Tyr	Thr	Gly	Ile	Asn	Glu	Met	Ile
290						295					300				
Asp	His	Gly	Met	Gly	Asp	Gln	Gln	Thr	Val	Ala	Ala	Leu	Ala	Leu	Asn
305					310					315					320
Ala	Gly	Val	Asp	Met	Asp	Met	Val	Ser	Asp	Ala	Phe	Ser	Gly	Thr	Leu
				325					330					335	
Lys	Lys	Ser	Val	Glu	Glu	Gly	Lys	Val	Ser	Ala	Ala	Ala	Ile	Asp	Ala
			340					345					350		
Ala	Cys	Arg	Arg	Ile	Leu	Glu	Ala	Lys	Tyr	Lys	Leu	Gly	Leu	Phe	Asp
				355			360					365			
Asn	Pro	Tyr	Lys	Tyr	Cys	Asp	Val	Asn	Arg	Pro	Lys	Lys	Gln	Ile	Phe
370						375					380				
Thr	Lys	Glu	His	Arg	Ala	Ile	Ala	Arg	Lys	Thr	Ala	Ser	Glu	Ser	Phe
385					390					395					400
Val	Leu	Leu	Lys	Asn	Glu	Gly	Val	Leu	Pro	Leu	Ser	Lys	Lys	Gly	Thr
				405					410					415	
Ile	Ala	Val	Val	Gly	Pro	Leu	Ala	Asn	Thr	Arg	Ser	Asn	Met	Pro	Gly
			420					425					430		
Thr	Trp	Ser	Val	Ala	Ala	Val	Leu	Asp	Asn	Ala	Pro	Ser	Leu	Val	Glu
			435				440					445			
Gly	Leu	Arg	Glu	Val	Val	Gly	Asp	Arg	Ala	Lys	Val	Val	Thr	Ala	Lys
	450					455					460				
Gly	Ser	Asn	Leu	Ile	Gly	Asp	Ala	Asp	Tyr	Glu	Lys	Arg	Ala	Thr	Met
465					470					475					480
Phe	Gly	Arg	Glu	Leu	His	Arg	Asp	Asn	Arg	Thr	Asp	Arg	Glu	Leu	Leu
				485					490					495	
Asp	Glu	Ala	Leu	Lys	Val	Ala	Ala	Gly	Ala	Asp	Val	Ile	Val	Ala	Ala
			500					505					510		
Leu	Gly	Glu	Ser	Ser	Glu	Met	Ser	Gly	Glu	Ser	Ser	Ser	Arg	Thr	Asn
	515						520					525			
Leu	Glu	Met	Pro	Asp	Val	Gln	Arg	Ala	Leu	Leu	Gln	Glu	Leu	Leu	Lys
	530					535					540				
Thr	Gly	Lys	Pro	Val	Val	Leu	Val	Leu	Phe	Thr	Gly	Arg	Pro	Leu	Val
545					550					555					560
Leu	Thr	Trp	Glu	Glu	Glu	His	Val	Pro	Ala	Ile	Leu	Asn	Val	Trp	Phe
				565					570					575	
Gly	Gly	Ser	Glu	Ala	Ala	Tyr	Ala	Ile	Ser	Asp	Val	Leu	Phe	Gly	Asp
			580					585					590		
Val	Asn	Pro	Ser	Gly	Lys	Leu	Thr	Ala	Thr	Phe	Pro	Gln	Asn	Val	Gly
	595						600					605			
Gln	Ile	Pro	Leu	Phe	Tyr	Asn	His	Lys	Asn	Thr	Gly	Arg	Pro	Leu	Gln
	610					615					620				
Glu	Gly	Arg	Trp	Phe	Glu	Lys	Phe	Arg	Ser	Asn	Tyr	Leu	Asp	Val	Ser
625					630					635					640
Asn	Glu	Pro	Leu	Tyr	Pro	Phe	Gly	Tyr	Gly	Leu	Ser	Tyr	Thr	Thr	Phe
				645					650					655	
Ala	Tyr	Ser	Asp	Ile	His	Leu	Ser	Ser	Thr	Glu	Met	Ser	Ala	Asp	Gly
			660						665					670	
Lys	Leu	Thr	Ala	Thr	Val	Thr	Val	Thr	Asn	Thr	Gly	Ser	Arg	Asp	Gly

6034 6034 6034

675 680 685  
 Ala Glu Val Val Gln Leu Tyr Ile Arg Asp Leu Val Gly Ser Val Thr  
 690 695 700  
 Arg Pro Val Lys Glu Leu Lys Gly Phe Glu Lys Ile Phe Leu Lys Ala  
 705 710 715 720  
 Gly Glu Ser Arg Lys Val Ser Phe Ser Ile Thr Pro Glu Leu Leu Lys  
 725 730 735  
 Phe Tyr Asn Tyr Asp Leu Gln Phe Val Cys Glu Pro Gly Asp Phe Asp  
 740 745 750  
 Val Met Ile Gly Gly Asn Ser Arg Asp Val Lys Lys Ala Arg Phe Leu  
 755 760 765  
 Leu Lys Gly Glu  
 770

<210> 10195  
 <211> 948  
 <212> PRT  
 <213> B.fragilis

<400> 10195  
 Leu Met Lys Asn Leu Leu Leu Phe Leu Val Phe Ala Cys Thr Phe Ser  
 1 5 10 15  
 Phe Ser Cys Leu Gly Ser Pro Val Pro Phe Ser Pro Ile Val Arg Asn  
 20 25 30  
 Tyr Ser Val Leu Asp Tyr Asn Ala Gly Asn Glu Asn Trp Ala Val Ala  
 35 40 45  
 Gln Asp Glu Arg Gly Val Met Tyr Phe Gly Asn Asn Ser Gly Leu Leu  
 50 55 60  
 Arg Tyr Asp Gly Ser Arg Trp Lys Leu Phe Pro Leu Pro Thr Ser Gly  
 65 70 75 80  
 Ile Val Arg Ala Val Tyr Val Ala Ser Asp Arg Arg Ile Tyr Val Gly  
 85 90 95  
 Ser Phe Glu Glu Phe Gly Tyr Phe Glu Gln Asn Asp Leu Asn Leu Leu  
 100 105 110  
 Glu Tyr His Ser Leu Lys Glu Gln Val Lys Gly Phe Asp Phe His Asn  
 115 120 125  
 Asp Glu Ile Trp Thr Ile Val Glu Gln Gly Gly Asn Ile Ile Phe Gln  
 130 135 140  
 Ser Phe Gly Ser Tyr Phe Ile Tyr Asp Gly Lys Gly Thr Lys Gly Val  
 145 150 155 160  
 Arg Cys Pro Glu Leu Pro Leu Asn Leu Phe Arg Ile Gly Asp Thr Leu  
 165 170 175  
 Tyr Ser Gln Leu Ile Asn Gly Gly Val Cys Thr Phe Ala Gly Asp Lys  
 180 185 190  
 Phe Ile Pro Leu Ile Ser Arg Gln Glu Leu Gly Asp Ser Asp Val Leu  
 195 200 205  
 Ala Gly Leu Pro Tyr Pro Gly Gly Met Leu Leu Leu Thr Arg Asn Ser  
 210 215 220  
 Gly Gly Tyr Ile His Thr Ser Ser Gly Ile Arg Ser Trp His Thr Asp  
 225 230 235 240  
 Ser Asp Glu Glu Leu Lys Arg His Thr Val Asn Arg Ala Val Met Thr  
 245 250 255  
 Lys Asp Ser Cys Tyr Val Ile Gly Thr Ile Ser Asn Gly Leu Tyr Ala  
 260 265 270  
 Phe Ser Lys Glu Gly His Leu Leu Trp Lys Glu Asn Ala Asp Asn Gln  
 275 280 285  
 Leu Glu Asn Asn Thr Val Leu Gly Leu Tyr Cys Asp Met Asp Asn Asn  
 290 295 300  
 Ile Trp Thr Ala Leu Asp Asn Gly Ile Ala Tyr Val Arg Asn Asn Ser

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305					310					315					320
Leu	Ile	Tyr	His	Phe	Glu	Pro	Val	Arg	Arg	Lys	Val	Gly	Met	Val	Tyr
				325					330					335	
Asp	Val	Leu	Val	Arg	Asp	Lys	Asp	Ala	Tyr	Ile	Ala	Ser	Asn	Gln	Gly
			340					345					350		
Leu	Tyr	Arg	Leu	Glu	Asp	Thr	Arg	Leu	Glu	Leu	Val	Pro	Gly	Leu	Glu
		355				360						365			
Glu	Gln	Ala	Trp	Thr	Ile	Gly	Glu	Trp	Gly	Gly	Gln	Val	Leu	Cys	Gly
		370				375					380				
His	Asn	Lys	Gly	Thr	Phe	Gln	Ile	Lys	Gly	Met	Gln	Ala	Arg	Leu	Leu
385					390					395					400
Ser	Asp	Val	Arg	Gly	Ala	Met	Cys	Met	Arg	Gln	Ala	Gln	Ile	Asn	Gly
				405					410					415	
Glu	Gln	Leu	Leu	Ile	Gln	Gly	Thr	Tyr	Thr	Phe	Leu	Asn	Ile	Tyr	Lys
			420					425					430		
Lys	Ser	Ala	Ala	Gly	Glu	Trp	Tyr	Phe	Ala	Asn	Ser	Val	Gly	Asn	Phe
		435					440					445			
Ser	His	Met	Ala	Lys	Asn	Ile	Glu	Val	Asp	Ala	His	Gly	Asn	Ile	Trp
	450					455					460				
Val	Gln	His	Met	Arg	Lys	Gly	Leu	Tyr	Arg	Leu	Arg	Leu	Asp	Glu	Glu
465					470					475					480
Leu	Lys	Gln	Val	Thr	Asp	Leu	Lys	Gln	Tyr	Asp	Ser	Leu	Ser	Gly	Asn
				485					490					495	
Gln	Gly	Gly	Asn	Cys	Tyr	Leu	Phe	Lys	Val	Asn	Gly	Arg	Val	Ala	Phe
			500					505					510		
Ser	Asp	Gly	Arg	Asn	Phe	Tyr	Thr	Tyr	Asp	Asp	Met	Ala	Asp	Ser	Ile
		515					520					525			
Ile	Pro	Tyr	Lys	Ala	Met	Asn	Glu	Gln	Leu	Ala	Thr	Leu	Arg	Gly	Ile
	530					535					540				
His	Thr	Val	Asp	Val	Met	Lys	Gly	Asp	Leu	Tyr	Trp	Phe	Leu	Ser	Asp
545					550					555					560
Arg	Glu	Ala	Tyr	Leu	Val	Arg	Cys	Thr	Val	Ser	Asp	Phe	Lys	Val	Glu
				565					570					575	
Arg	Arg	Ile	Pro	Phe	Ser	Met	Phe	Gly	Asn	Leu	Pro	Ile	Glu	Gly	Leu
			580					585					590		
Ala	Arg	Ile	Val	Tyr	Asp	Arg	Arg	Asn	Asp	Cys	Ser	Tyr	Leu	Cys	Leu
		595					600					605			
Asn	Asn	Ser	Phe	Ala	Arg	Ile	Ala	Ala	Asp	Ser	Thr	Gly	Leu	Tyr	Lys
	610					615					620				
Ser	Arg	Gln	Lys	Pro	Ser	Leu	Trp	Val	Ser	Gly	Phe	Ser	Ala	Ser	Asp
625					630					635					640
Glu	Gln	Thr	Gly	Glu	Arg	Ile	Gln	Leu	Pro	Val	Ser	Gly	Thr	Asp	Glu
				645					650					655	
Ile	Ala	Ser	Ala	Phe	Asn	Asn	Ile	Ser	Ile	Ser	Leu	Ala	Tyr	Pro	Val



Glu Ile Glu Gln Gln Glu Lys Lys Ile Met Glu Leu Glu Lys Glu Gln  
 785 790 795 800  
 Leu Glu Ala Asp Leu Arg Phe Lys Ser Lys Glu Leu Ser Gly Val Val  
 805 810 815  
 Met Thr Asn Ile Ala His Gln Glu Phe Leu Asn Ser Leu Lys Glu Glu  
 820 825 830  
 Leu Gln Gln Gln Lys Leu Ser Gly Gln Tyr Thr Arg Lys Asn Leu Asp  
 835 840 845  
 Lys Leu Leu Ser Met Ile Asn Gln Asn Met Val Ser Asp Glu Glu Asn  
 850 855 860  
 Trp Asn Met Phe Gln Ser Asn Phe Asp Arg Ile His Glu Asn Phe Phe  
 865 870 875 880  
 Arg Asn Leu Lys Glu Lys Phe Pro Asp Leu Thr Ser Gly Asp Leu Arg  
 885 890 895  
 Leu Cys Ala Leu Leu Arg Leu Asn Leu Pro Thr Lys Glu Ile Ala Lys  
 900 905 910  
 Leu Met Asn Ile Ser Val Arg Gly Val Asp Ala Ala Arg Tyr Arg Leu  
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 Ile Ala Phe Lys  
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 <211> 360  
 <212> PRT  
 <213> B.fragilis

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 Gly Tyr Phe Glu Ile Cys Asn Ile Phe Ala Lys Lys Ile Ser Glu Met  
 20 25 30  
 Asp Lys Ile Ile Gly Leu Gly Asn Ala Leu Val Asp Val Leu Ala Thr  
 35 40 45  
 Leu Lys Asp Asp Thr Leu Leu Asp Glu Met Gly Leu Pro Lys Gly Ser  
 50 55 60  
 Met Gln Leu Ile Asp Asp Ala Lys Leu Gln Gln Ile Asn Glu Arg Phe  
 65 70 75 80  
 Ser Gln Met Lys Thr His Leu Ala Thr Gly Gly Ala Ala Ala Asn Thr  
 85 90 95  
 Ile Leu Gly Leu Ala Cys Leu Gly Ala Gly Thr Gly Phe Ile Gly Lys  
 100 105 110  
 Ile Gly Asn Asp Ala Tyr Gly Asn Phe Phe Arg Ala Asn Leu Gln Arg  
 115 120 125  
 Asn Gly Ile Glu Asp Lys Leu Leu Val Ser Asp Leu Pro Ser Gly Val  
 130 135 140  
 Ala Ser Thr Phe Ile Ser Pro Asp Gly Glu Arg Thr Phe Gly Thr Tyr  
 145 150 155 160  
 Leu Gly Ala Ala Ser Thr Leu Lys Ala Glu Asp Leu Thr Leu Asp Met  
 165 170 175  
 Phe Lys Gly Tyr Ala Tyr Leu Leu Ile Glu Gly Tyr Leu Val Gln Asp  
 180 185 190  
 His Asp Met Ile Leu His Ala Ile Glu Leu Ala Lys Glu Ala Gly Leu  
 195 200 205  
 Gln Val Cys Leu Asp Met Ala Ser Tyr Asn Ile Val Ala Gly Asp Leu  
 210 215 220  
 Glu Phe Phe Thr Leu Leu Ile Asn Lys Tyr Val Asp Ile Val Phe Ala  
 225 230 235 240

Asn Glu Glu Glu Ala Lys Ala Phe Thr Gly Lys Glu Asp Pro Lys Glu  
 245 250 255  
 Ala Leu Glu Leu Ile Ser Lys Lys Cys Ser Ile Ala Ile Val Lys Val  
 260 265 270  
 Gly Gly Asn Gly Ser Tyr Ile Arg Lys Gly Thr Glu Glu Ile Lys Val  
 275 280 285  
 Glu Ala Ile Pro Val Lys Lys Val Ile Asp Thr Thr Gly Ala Gly Asp  
 290 295 300  
 Tyr Phe Ala Ser Gly Phe Leu Tyr Gly Leu Thr Cys Gly Tyr Ser Leu  
 305 310 315 320  
 Glu Lys Cys Ala Lys Ile Gly Ser Ile Leu Ser Gly Asn Val Ile Gln  
 325 330 335  
 Ile Val Gly Thr Thr Ile Pro Gly Glu Arg Trp Asp Glu Ile Lys Leu  
 340 345 350  
 Asn Ile Asn Glu Val Leu Ser Glu  
 355 360

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<211> 824

<212> PRT

<213> B.fragilis

<400> 10197

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 Leu Ala Thr Ala Cys Ser Glu Glu Glu Pro Gln Thr Ile Thr Pro Val  
 20 25 30  
 Pro Phe Asn Gln Val Thr Leu Thr Asp Gly Phe Trp Lys Asn Arg Met  
 35 40 45  
 Gln Thr Glu Ile Asn Val Thr Val Pro Phe Ser Val Glu Gln Ser Ala  
 50 55 60  
 Pro Ala Val Glu Arg Phe Arg Arg Cys Ala Ala Phe Leu Ala Gly Asp  
 65 70 75 80  
 Ser Thr Ala Leu Pro Glu Thr His Arg Phe Ile Ser Ser Asp Leu Tyr  
 85 90 95  
 Lys Val Met Glu Gly Val Ser Tyr Ser Leu Met Ile Gln Pro Asn Lys  
 100 105 110  
 Glu Leu Glu Glu Phe Met Asp Arg Val Ala Asp Leu Ile Thr Ala Ser  
 115 120 125  
 Gln Lys Asp Asp Gly Tyr Leu Tyr Ile Ser His Ile Cys Gly Asn Pro  
 130 135 140  
 Asp Pro Arg Glu Met Gly Glu Lys Pro Tyr Ser Trp Val Val His Ser  
 145 150 155 160  
 His Glu Leu Tyr Asn Val Gly His Leu Tyr Glu Ala Ala Val Ala Tyr  
 165 170 175  
 Tyr Gln Ala Thr Gly Lys Asp Lys Leu Leu Asn Val Ala Ile Lys Ser  
 180 185 190  
 Ala Lys His Val Asn Lys Val Phe Phe Glu Gly Gly Asp Pro Asn Tyr  
 195 200 205  
 Asn Gly Gly Lys Pro Ile Asn Gln Ala Pro Gly His Glu Glu Ile Glu  
 210 215 220  
 Leu Ala Leu Cys Lys Leu Tyr Arg Val Thr Asn Asp Pro Leu Tyr Leu  
 225 230 235 240  
 Asp Met Ala Lys Lys Phe Leu Glu Ile Arg Gly Val Thr Tyr Arg Pro  
 245 250 255  
 Glu Gly Glu Gly Val Met Ala Pro Thr Tyr Ala Gln Gln His Ala Pro  
 260 265 270  
 Val Lys Glu Gln Thr Glu Ala Val Gly His Ala Val Arg Ala Ala Tyr  
 275 280 285

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Leu 290	Tyr	Thr	Ala	Met	Ala	Gln	Val	Asp	Ala	Leu	Thr	Gly	Leu	Asn	Asp
Tyr 305	Thr	Lys	Ala	Leu	Asn	Ser	Ile	Trp	Thr	Asn	Leu	Val	Thr	Thr	Arg
Met	His	Ile	Thr	Gly	Gly	Leu	Gly	Ala	Val	Glu	Gly	Met	Glu	Gly	Phe
Gly	Ala	Pro	Tyr	Glu	Leu	Pro	Asn	Leu	Thr	Ala	Tyr	Asn	Glu	Thr	Cys
Ala	Ala	Val	Ala	Asn	Val	Phe	Phe	Asn	Tyr	Gly	Met	Tyr	Leu	Asp	Ser
Gly	Asp	Ala	Lys	Phe	Leu	Asp	Ile	Ala	Glu	Leu	Ser	Leu	Phe	Asn	Asn
Ser 385	Leu	Ala	Gly	Ile	Asn	Leu	His	Gly	Asp	Arg	Phe	Phe	Tyr	Val	Asn
Pro	Leu	Glu	Ala	Asp	Gly	Val	Arg	Arg	Phe	Asn	His	Gly	Asn	Gly	Gly
Arg	Ala	Lys	Trp	Phe	Gly	Cys	Ala	Cys	Cys	Pro	Pro	Asn	Ile	Ser	Arg
Leu	Ile	Leu	Gln	Val	Pro	Gly	Tyr	Met	Tyr	Ala	Tyr	Ser	Lys	Asp	Arg
Val	Tyr	Leu	Thr	Leu	Tyr	Gly	Gly	Ser	Gln	Thr	Thr	Ile	Pro	Leu	Glu
Gly 465	Thr	Arg	Val	Lys	Leu	Glu	Gln	Thr	Ser	Ala	Tyr	Pro	Phe	Asp	Gly
Lys	Val	Arg	Leu	Thr	Val	Gln	Pro	Glu	Lys	Gly	Ser	Lys	Phe	Ser	Val
Cys	Met	Arg	Ile	Pro	Thr	Trp	Ala	Arg	Ser	Asp	Glu	Phe	Val	Pro	Gly
Gly	Leu	Tyr	Pro	Tyr	Lys	Gln	Pro	Lys	Gln	Ala	Glu	Val	Glu	Leu	Ser
Val	Asn	Gly	Gln	Lys	Thr	Asp	Phe	Lys	Met	Glu	Lys	Gly	Phe	Ala	Val
Ile 545	Lys	Arg	Asp	Trp	Lys	Pro	Gly	Asp	Val	Val	Glu	Leu	Asn	Ile	Pro
Met	Pro	Val	Arg	Phe	Val	Asp	Cys	Ile	Pro	Glu	Val	Ser	Glu	Asn	Ile
Gly	Lys	Thr	Ala	Val	Thr	Arg	Gly	Pro	Leu	Val	Tyr	Cys	Ala	Glu	Glu
Val	Asp	Asn	Ala	Gly	Pro	Val	Gln	Arg	Leu	Tyr	Leu	Gly	Asp	Thr	Asn
Glu	Ala	Gln	Ala	Lys	Val	Ala	Asn	Ile	Ser	Ser	Gly	Val	Leu	Gln	Gly
Leu 625	Glu	Arg	Ile	Thr	Leu	Pro	Gly	Met	Glu	Lys	Lys	Val	Gly	Gly	Ile
Thr	Ser	Arg	Glu	Ile	Thr	Met	Ile	Pro	Tyr	Tyr	Ala	Trp	Cys	Asn	Arg
Gly	Asp	Asn	Arg	Thr	Met	Leu	Val	Trp	Leu	Asn	Glu	Glu	Ala	Ser	Thr
Ala	Ser	Ile	Gly	Gln	Gln	Thr	Met	Ala	Tyr	Leu	Arg	Asn	Val	Lys	Gly
Val	Asn	Ala	Ser	Ser	Val	Ala	Gly	Gly	Lys	Asn	Ile	Ser	Val	Arg	Ala
Leu 705	Cys	Asp	Gly	Lys	Val	Ser	Glu	Ser	Ser	Ala	Asp	Lys	Leu	Thr	Glu
Gln	Trp	Val	Ser	Glu	Gly	Ser	Gly	Lys	Gln	Trp	Val	Gln	Val	Asp	Phe
Arg	Glu	Pro	Phe	Leu	Leu	Asn	Ser	Leu	Ser	Val	Tyr	Trp	Leu	Asp	Asp
Gln	Asp	Lys	Ile	Thr	Val	Pro	Ser	Gly	Trp	Ser	Val	Glu	Tyr	Lys	Ser

755	760	765
Asp Ala Gly Trp Thr Pro Leu Glu Leu Tyr Val Thr Asp Ser Tyr Gln		
770	775	780
Met Gly Thr Asp Arg Phe Asn Val Val His Pro Ser Gly Ser Leu Glu		
785	790	795
Val Glu Ser Val Arg Ile Leu Ile Glu Pro Gln Lys Gly Lys Ser Ile		
	805	810
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Gly Val Ser Glu Ile Arg Phe Glu		
820		

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&lt;211&gt; 1009

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10198

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Phe Thr Leu Cys Met Met Leu Leu Leu Ser Met Leu Ser Phe Ala Gln		
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Gly Ser Leu Thr Ile Ser Gly Val Val Thr Glu Lys Lys Thr Gly Glu		
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		45
Pro Ile Ile Gly Ala Ser Ile Leu Leu Lys Gly Gln Ser Ser Gly Thr		
	50	55
		60
Ile Thr Asp Phe Asn Gly Asn Tyr Ser Ile Pro Asn Val Pro Ser Gly		
65	70	75
		80
Ala Thr Leu Val Phe Ser Tyr Ile Gly Met Lys Thr Gln Glu Val Lys		
	85	90
		95
Val Thr Ala Ser Ser Lys Leu Asp Ile Ser Leu Glu Glu Asp Asn Gln		
	100	105
		110
Leu Ile Asp Glu Val Val Val Ile Gly Tyr Gly Ile Gln Arg Lys Ser		
	115	120
		125
Asp Leu Thr Gly Ser Val Gly Ala Val Lys Ser Lys Asp Leu Thr Lys		
	130	135
		140
Val Ala Thr Pro Asn Val Ala Asn Ala Leu Gln Gly Arg Val Ser Gly		
145	150	155
		160
Val Tyr Ile Ser Ala Asn Gly Ala Pro Gly Ser Ser Pro Glu Val Arg		
	165	170
		175
Ile Arg Gly Ile Gly Thr Thr Asn Asn Ser Asn Pro Leu Tyr Val Val		
	180	185
		190
Asp Gly Met Phe Met Asp Asp Ile Ser Phe Leu Ser Thr His Asp Ile		
	195	200
		205
Glu Ser Met Glu Val Leu Lys Asp Ala Ser Ala Thr Ala Met Tyr Gly		
	210	215
		220
Ser Arg Gly Ala Asn Gly Val Ile Ile Val Thr Thr Lys Gln Gly Thr		
225	230	235
		240
Glu Gly Lys Ala Val Val Asn Phe Thr Ala Ser Glu Gly Phe Gln Phe		
	245	250
		255
Asn Asn Ser Ser Phe Glu Met Ala Asn Ala Thr Glu Tyr Ala Thr Leu		
	260	265
		270
Leu Asn Glu Ala Leu Val Asn Thr Gly Gly Lys Pro Lys Phe Asp Asp		
	275	280
		285
Pro Ala Ser Leu Gly Lys Gly Thr Asn Trp Phe Asp Glu Ile Phe Arg		
	290	295
		300
Val Ala Ser Val Arg Asp Tyr Gln Leu Ser Val Ser Gly Gly Ser Glu		
305	310	315
		320
Lys Val Arg Tyr Asn Leu Ser Ala Gly Tyr Tyr Gln Gln Asp Gly Ile		
	325	330
		335
Ile Thr Gly Asn Thr Tyr Asn Arg Phe Thr Leu Arg Ala Asn Asn Ser		

	340		345		350
Tyr Lys Ile Ser Lys Arg Leu Thr Leu Gly His Asn Leu Ser Ala Ser					
	355		360		365
Phe Ser His Lys Lys Asn Glu Asn Ser Ala Val Val Lys Ala Ala Tyr					
	370		375		380
Thr Ile Ser Pro Val Lys Arg Pro Tyr Asn Glu Asp Gly Ser Phe Met					
385		390		395	400
Asp Ser Glu Ser Ala Ser Ser Ala Asn Pro Val Ala Thr Leu His Tyr					
	405		410		415
Thr Asn Asn Asp Asp Trp Lys Glu Arg Ile Val Gly Ser Ala Phe Leu					
	420		425		430
Asn Trp Asn Ile Leu Asn Gly Leu Asp Phe Lys Thr Ser Leu Gly Ile					
	435		440		445
Asp Tyr Ile Asn Gly Arg Arg Arg Asn Phe Val Pro Lys Tyr Tyr Val					
	450		455		460
Ser Glu Thr Gln Lys Asn Glu Thr Asn Ser Leu Ser Lys Thr Trp Asp					
465		470		475	480
Arg Asp Phe Thr Trp Leu Trp Glu Asn Leu Leu Thr Tyr Asp Trp Lys					
	485		490		495
Ile Asn Asp Lys Asn Arg Leu Asn Leu Leu Gly Gly Ile Thr Ala Gln					
	500		505		510
Lys Arg Val Tyr Glu Leu Leu Glu Gly Thr Gly Arg Asp Phe Phe Ser					
	515		520		525
Asp Asn Glu Asn Tyr Trp Tyr Leu Asp Gln Ala Ser Ala Gly Ser Lys					
	530		535		540
Ser Val Ala Asn Asn Gly Tyr His Glu Thr Met Met Ser Tyr Leu Phe					
545		550		555	560
Arg Ala Asn Tyr Ala Leu Met Asp Arg Tyr Leu Leu Thr Val Ser Val					
	565		570		575
Arg Ala Asp Gly Ser Ser Lys Phe Gly Pro Asp Asn Arg Trp Gly Tyr					
	580		585		590
Phe Pro Ser Val Ala Ala Gly Trp Arg Val Ser Glu Glu Ala Phe Leu					
	595		600		605
Lys Asp Arg Val Gln Trp Leu Ser Asn Leu Lys Leu Arg Gly Ser Trp					
	610		615		620
Gly Gln Ile Gly Asn Asp Lys Ile Gly Asn Asp Lys Tyr Arg Ala Leu					
625		630		635	640
Ala Asn Ile Ser Pro Ser Tyr Asp Ala Val Phe Gly Gly Val Phe Tyr					
	645		650		655
Pro Gly Gly Thr Ile Thr Ser Leu Ser Asn Arg Ser Val His Trp Glu					
	660		665		670
Arg Ser Glu Gln Met Asp Leu Gly Phe Asp Leu Gly Leu Leu Asn Asn					
	675		680		685
Arg Phe Ser Leu Glu Leu Asp Tyr Tyr Arg Arg Asp Thr Lys Asp Met					
	690		695		700
Leu Val Thr Val Asp Val Pro Ala Ser Val Gly Leu Thr Pro Val Glu					
705		710		715	720
Thr Asn Val Gly Ala Val Arg Asn Ser Gly Val Asp Phe Thr Val Lys					
	725		730		735
Trp Glu Asp Ser Leu Lys Asp Phe Arg Tyr Gly Ile Arg Leu Thr Gly					
	740		745		750
Thr Thr Ile Lys Asn Glu Val Ile Ser Leu Gly Gly Lys Arg Ile Ala					
	755		760		765
Ser Gly Asp Ile Gly Ala Gly Lys Ser Val Gln Met Thr Glu Glu Gly					
	770		775		780
Lys Pro Ile Lys Tyr Phe Tyr Gly Tyr Asn Val Ile Gly Ile Phe Gln					
785		790		795	800
Asn Glu Ala Gln Ile Lys Glu Tyr Asn Glu Arg Ala Ala Ala Ala Thr					
	805		810		815

Gly Asn Ser Gly Gln Gln Tyr Gln Asn Asn Val Gly Pro Gly Asp Leu  
 820 825 830  
 Ile Tyr Glu Asp Val Asp Gly Asp Gly Tyr Ile Thr Ala Asn Asp Arg  
 835 840 845  
 Lys Asp Leu Gly Ser Pro Thr Pro Lys Phe Ile Gly Gly Leu Gly Ile  
 850 855 860  
 Ser Ala Ser Trp Lys Gly Phe Asp Leu Ser Ile Asp Phe Gln Gly Asn  
 865 870 875 880  
 Phe Gly Asn Lys Ile Phe Asn Ala Lys Gln Val Glu Arg Phe Ser Gly  
 885 890 895  
 Ser Asp Asn Trp Asp Arg Ser Phe Leu Asp Arg Trp Thr Pro Glu Asn  
 900 905 910  
 Pro Asn Thr Met Thr Pro Arg Met Thr Leu Glu Gly Asn Asn Tyr Gln  
 915 920 925  
 Val Ser Ser Arg Tyr Val Glu Ser Gly Ser Tyr Val Lys Leu Gln Thr  
 930 935 940  
 Val Glu Leu Gly Tyr Thr Phe Pro Lys Ser Trp Met Gln Lys Val Ser  
 945 950 955 960  
 Val Gln Asn Leu Arg Val Tyr Phe Ser Gly Asn Asn Leu Ala Tyr Phe  
 965 970 975  
 Thr Gly Tyr Asn Gly Phe Thr Pro Glu Val Leu Gly Gly Ile Asp Arg  
 980 985 990  
 Gln Ile Tyr Pro Val Thr Ala Thr Cys Arg Phe Gly Leu Asn Val Thr  
 995 1000 1005  
 Phe

<210> 10199  
 <211> 576  
 <212> PRT  
 <213> B.fragilis

<400> 10199  
 Ile Thr Thr Met Lys Gln Leu Phe Leu Leu Leu Leu Ala Leu Gly Ala  
 1 5 10 15  
 Pro Ala Leu Ala Leu Ala Gln Asp Met Arg Gln Asp Thr Tyr Cys Asn  
 20 25 30  
 Pro Leu Asn Ile Asp Tyr Thr Tyr Met Ile Tyr Asn Ser Asp Lys Asp  
 35 40 45  
 Ile Ser Tyr Arg Ser Gly Ala Asp Pro Ala Val Val Arg Phe Arg Gly  
 50 55 60  
 Glu Tyr Tyr Met Phe Val Thr Arg Ser Asn Gly Tyr Trp His Ser Lys  
 65 70 75 80  
 Asp Leu Leu Asp Trp Asp Phe Ile Ala Pro Lys Asp Trp Tyr Pro Gln  
 85 90 95  
 Gly Ser Asn Ala Pro Ala Ala His Asn Tyr Lys Asp Ser Val Leu Tyr  
 100 105 110  
 Val Thr Gly Asp Pro Ser Gly Ser Met Ser Ile Leu Tyr Ser Asp Asn  
 115 120 125  
 Pro Lys Ser Gly Glu Trp Lys Ala Thr Pro Ala Ile Leu His Asn Leu  
 130 135 140  
 Gln Asp Pro Asp Leu Phe Ile Asp Asp Asp Gly Lys Ala Tyr Met Phe  
 145 150 155 160  
 Trp Gly Ser Ser Asn Val Tyr Pro Ile Arg Gly Met Glu Leu Asp Lys  
 165 170 175  
 Asn His Arg Phe Leu Pro Lys Gly Glu Val Lys Glu Leu Phe Asn Leu  
 180 185 190  
 Asp Met Pro Arg His Gly Trp Glu Arg Phe Gly Glu Asn His Ser Asp  
 195 200 205

Thr Val Leu Gly Gly Tyr Ile Glu Gly Pro Trp Leu Thr Lys Tyr Asn  
 210 215 220  
 Gly Lys Tyr Tyr Met Gln Tyr Gly Ala Pro Gly Thr Glu Phe Asn Val  
 225 230 235 240  
 Tyr Ala Asp Gly Val Tyr Val Ala Asp His Pro Met Gly Pro Tyr Thr  
 245 250 255  
 Tyr Gln Lys His Asn Pro Val Ser Tyr Lys Pro Gly Gly Tyr Met Asn  
 260 265 270  
 Gly Ala Gly His Gly Ser Thr Val Gln Gly Pro Gly Gly Glu Tyr Trp  
 275 280 285  
 His Phe Ala Ser Met Ala Leu Ser Ile Asn Val Asn Trp Glu Arg Arg  
 290 295 300  
 Leu Cys Met Phe Pro Ala Gly Phe Asp Lys Asp Gly Ile Met Tyr Val  
 305 310 315 320  
 Asp Thr Arg Phe Gly Asp Tyr Pro Arg Tyr Ala Pro Ala Val Pro Gly  
 325 330 335  
 Lys Lys Gly Gln Phe Arg Gly Trp Met Leu Leu Ser Tyr Arg Lys Pro  
 340 345 350  
 Val Thr Ala Ser Thr Ala Lys Gly Glu Phe Gly Pro Asp Ala Leu Thr  
 355 360 365  
 Asp Glu Arg Thr Lys Ser Phe Trp Leu Ala Glu Ala Asn Asp Glu Arg  
 370 375 380  
 Gln Trp Val Leu Ile Asp Leu Glu Lys Pro Ala Arg Val Cys Ala Val  
 385 390 395 400  
 Gln Val Asn Tyr His Asp Tyr Arg Ser Asn Leu Tyr Gly Arg Ile Pro  
 405 410 415  
 Gly Leu Arg His Arg Tyr Val Ile Glu Gly Ser Ser Asp Gly Glu Thr  
 420 425 430  
 Trp Asn Ile Leu Val Asp Arg Arg Ser Ser Tyr Lys Asp Thr Pro Asn  
 435 440 445  
 Asp Tyr Val Glu Leu Glu Val Pro Thr Thr Ala Arg Tyr Ile Arg Tyr  
 450 455 460  
 Lys Asn Ile Asp Val Pro Thr Pro Asn Leu Ala Ile Ser Glu Leu Arg  
 465 470 475 480  
 Val Phe Gly Leu Gly Phe Gly Lys Ala Pro Arg Ser Pro Gln Lys Leu  
 485 490 495  
 Ala Leu Asp Arg His Thr Asp Arg Cys Asp Val Thr Val Arg Trp Glu  
 500 505 510  
 Pro Val Lys Gly Ala Gln Gly Tyr Asn Val Leu Trp Gly Ile Ala Pro  
 515 520 525  
 Asp Lys Leu Tyr Ser Ser Trp Met Val Tyr Gly Gly Asn Glu Leu Glu  
 530 535 540  
 Met Lys Ser Leu Thr Ile Asp Gln Asp Tyr Tyr Phe Ala Val Glu Ala  
 545 550 555 560  
 Phe Asn Glu Asn Gly Val Ser Leu Pro Ser Glu Thr Lys Tyr Val Glu  
 565 570 575

&lt;210&gt; 10200

&lt;211&gt; 514

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10200

Val Arg Arg Met Ser Phe Ile Pro Asn Lys Glu Glu Ile Ala Ser Leu  
 1 5 10 15  
 Glu Tyr Tyr Glu Glu Asn Tyr Val Trp Gly Gln Leu Gln Arg Thr Asp  
 20 25 30  
 Glu Glu Tyr Pro Tyr Pro Tyr Gly Ile Tyr Gly Ser Glu Asn Trp Tyr  
 35 40 45

Gln Asn Arg Ser Gly Lys Tyr Gly Gly Tyr Glu Asp Gly Gly Ser Gly  
 50 55 60  
 Lys Gly Arg Met Trp Arg Thr Phe Asp Tyr Thr Thr His Phe Ala Ile  
 65 70 75 80  
 Tyr Tyr Asn Leu Tyr Arg Ile Ala Glu Asp Asn Pro Glu Met Val Ser  
 85 90 95  
 Tyr Leu Asp Ala Asp Gly Tyr Leu Glu Arg Ala Tyr Arg Thr Ala Ile  
 100 105 110  
 Ala Tyr Phe Glu Val Pro Tyr Asn Ile Leu Met Gly Lys Gln Trp Ala  
 115 120 125  
 Phe His Gly Trp Thr Asp Trp Ala Tyr Lys Gln Gly Asn Phe His Glu  
 130 135 140  
 Arg Tyr Leu Leu Asp Ile Ile Asn Ala Leu Gln Gln Lys Gly Arg Leu  
 145 150 155 160  
 Lys Asp Ala Ala Lys Leu Arg Arg Glu Trp Glu Lys Lys Val Thr Tyr  
 165 170 175  
 Met Val Tyr Glu Asp Pro Trp Pro Phe Gly Ser Glu Met Phe Val Asp  
 180 185 190  
 Arg Thr Ala Phe Glu Ser Ser Tyr Tyr Val Ala Glu Tyr Ala Lys Leu  
 195 200 205  
 Asn Pro Ile Lys Pro Glu Glu Gln Phe Trp Tyr Asp Lys Asn Arg Lys  
 210 215 220  
 Lys Trp Tyr Ser Tyr Thr Ser Phe Asp Thr Ser Met Ile Asp Arg Phe  
 225 230 235 240  
 Met Gln Asn Gln Leu Asp Gly Asn Leu Ala Leu Arg Gly Leu Phe Glu  
 245 250 255  
 Pro Gly Tyr Ala Asn Leu Gly Thr Ala Trp Ser Gly Gln Tyr Val Asn  
 260 265 270  
 Leu Asp Tyr Met Thr Gln Met Gly Gly Val Ala Leu Leu Asp Tyr Ala  
 275 280 285  
 Tyr Arg Phe Ser Asp Arg Pro Asp Arg Tyr Ile Asn Tyr Gly Tyr Asn  
 290 295 300  
 Ser Leu Leu Ala Ser Trp Ala Leu Met Asn Thr Gly Thr Lys Lys Thr  
 305 310 315 320  
 Asp Phe Gly Tyr Trp Tyr Arg Gly Glu Gln Asn Asp Gly Ala Val Gly  
 325 330 335  
 Trp Ala Phe Ser Pro Tyr Gln Asn Ser Arg Thr Tyr Met Asn Tyr Ile  
 340 345 350  
 Lys Val Gly Arg Ala Pro Trp Arg Phe Asp Gly Glu Ile Asp His Gly  
 355 360 365  
 Leu Thr Gly Gly Ile His Gly Ser Gly Val Tyr Leu Leu Asp Asp Pro  
 370 375 380  
 Asp Phe Gly Leu Ile Gly Tyr Gly Gly Asn Val Arg Met Asp Lys Asp  
 385 390 395 400  
 Gly Thr Val Ser Ile Ile Pro Phe Asp Gly Val Arg Arg Gln Val Arg  
 405 410 415  
 Ile Met Thr Pro Val Arg Phe Ser Val Glu Leu Met Gln Asp Gly Phe  
 420 425 430  
 Arg Lys Asp Tyr Pro Ile Thr Leu Arg Gly Thr Glu Glu Leu Ser Phe  
 435 440 445  
 Cys Ile Glu Asn Arg Ser Asp Lys Pro His Asn Thr Thr Ile Arg Ala  
 450 455 460  
 Glu Gly Met Pro Glu Gly Lys Tyr Thr Val Met Thr Asp His Lys Met  
 465 470 475 480  
 Ile Thr Thr Phe Asn Ile Glu Ala Gly Asn Ala His His Pro Tyr Tyr  
 485 490 495  
 Ile Glu Val Pro Val Thr Asp Lys His Thr Gln Val Lys Leu Leu Lys  
 500 505 510  
 Thr Asn



<210> 10201  
 <211> 437  
 <212> PRT  
 <213> B.fragilis

<400> 10201

Asn	Leu	Glu	Leu	Thr	Thr	Thr	Met	Lys	His	Thr	Leu	Leu	Phe	Leu	Leu
1			5						10					15	
Met	Ile	Cys	Ala	Cys	Thr	Leu	Gln	Ala	Thr	Ala	Thr	Gly	Lys	Gln	Pro
		20					25						30		
Arg	Leu	Thr	Asp	Asp	Glu	Leu	Met	Thr	Leu	Val	Gln	Lys	Gln	Thr	Phe
		35					40					45			
Arg	Tyr	Phe	Trp	Asp	Phe	Ala	His	Pro	Glu	Ser	Gly	Leu	Ala	Arg	Glu
	50					55					60				
Arg	Ser	Asn	Asp	Arg	Leu	Glu	Ile	Ala	Thr	Ile	Gly	Gly	Ser	Gly	Phe
65					70					75					80
Gly	Val	Met	Ala	Ile	Ile	Val	Gly	Val	Glu	Arg	Gly	Phe	Ile	Thr	Arg
				85					90					95	
Glu	Gln	Gly	Ala	Glu	Arg	Leu	Leu	Lys	Ile	Val	Glu	Phe	Leu	Asn	Lys
			100					105					110		
Ala	Asp	Ser	Tyr	His	Gly	Ile	Trp	Ala	His	Trp	Met	Asp	Gly	Thr	Thr
		115					120					125			
Gly	Lys	Thr	Ile	Pro	Phe	Ser	Arg	Lys	Asp	Asp	Gly	Ala	Asp	Leu	Val
	130						135				140				
Glu	Ser	Ala	Phe	Met	Phe	Glu	Gly	Leu	Leu	Ala	Ala	His	Gln	Tyr	Phe
145					150					155					160
Thr	His	Asp	Asn	Pro	Thr	Glu	Asn	Arg	Ile	Arg	Gly	Leu	Ile	Asn	Thr
			165						170					175	
Leu	Trp	His	Gln	Ala	Glu	Trp	Asp	Trp	Phe	Thr	Arg	Gly	Gly	Glu	Asp
			180					185						190	
Val	Leu	Tyr	Trp	His	Trp	Ser	Pro	Asn	Asn	Gly	Trp	Ala	Met	Asn	His
		195					200					205			
Gln	Leu	Lys	Gly	Gln	Asn	Glu	Cys	His	Ile	Thr	Tyr	Ile	Leu	Ala	Ala
	210					215					220				
Ser	Ser	Pro	Thr	Tyr	Pro	Ile	Arg	Glu	Ser	Val	Tyr	His	Lys	Gly	Trp
225					230					235					240
Ala	Asn	Ser	Ile	Thr	Phe	Lys	Asn	Gly	Lys	Glu	Tyr	Tyr	Gly	Ile	Arg
			245						250					255	
Leu	Pro	Leu	Gly	Thr	Asp	Phe	Gly	Gly	Pro	Leu	Phe	Phe	Thr	His	Tyr
		260					265						270		
Ser	Tyr	Leu	Gly	Leu	Asp	Pro	Arg	Gly	Leu	Lys	Asp	Ser	Tyr	Ala	Asp
	275						280					285			
Tyr	Gly	Glu	Gln	Met	Lys	Ala	His	Thr	Leu	Ile	Asn	Arg	Ala	Tyr	Cys
	290					295					300				
Ile	Asp	Asn	Pro	Lys	Lys	Tyr	Lys	Gly	Tyr	Gly	Arg	Lys	Cys	Trp	Gly
305					310					315					320
Leu	Thr	Ala	Ser	Asp	Asn	His	Gln	Gly	Tyr	Ser	Ala	His	Cys	Pro	Gln
			325						330					335	
Asn	Asp	Leu	Gly	Val	Ile	Thr	Pro	Thr	Ala	Ala	Ile	Ser	Ser	Ile	Pro
		340						345					350		
Tyr	Thr	Pro	Glu	His	Ser	Leu	Glu	Ala	Met	Arg	Tyr	Phe	Tyr	Glu	Glu
		355					360						365		
Leu	Gly	Asp	Arg	Leu	Trp	Gly	Glu	Tyr	Gly	Phe	Lys	Asp	Ala	Phe	Asn
	370					375					380				
Leu	Thr	Glu	Asn	Trp	Phe	Ala	Ser	Ser	Tyr	Leu	Ala	Ile	Asp	Gln	Gly
385					390					395					400
Pro	Ile	Ile	Val	Met	Ile	Glu	Asn	Tyr	Arg	Ser	Gly	Leu	Ile	Trp	Lys

6045 10201 437 PRT B.fragilis

405 410 415  
 Leu Phe Met Ser His Pro Asp Val Gln Arg Gly Leu Lys Arg Leu Gly  
 420 425 430  
 Phe Gly Ser Glu Glu  
 435

<210> 10202  
 <211> 113  
 <212> PRT  
 <213> B.fragilis

<400> 10202  
 Ser Leu His Ala Pro Gln Leu Pro Phe His Tyr Gly Tyr Pro Cys Arg  
 1 5 10 15  
 Glu Lys Tyr Val His His Thr Tyr His Pro Thr Ala Met Ser His Thr  
 20 25 30  
 Gly Tyr Asn Tyr Gly His Tyr Gln Pro Phe Arg Leu His Gly Pro Thr  
 35 40 45  
 His Ser Asp Arg Leu Ser Ser Ser Ser Val Asn Asn Tyr Lys Tyr Ile  
 50 55 60  
 Gly Tyr Asn Tyr Ser Glu Tyr Thr Asp Pro Arg Ser Ser Ser Gly Glu  
 65 70 75 80  
 Gly Val Asp Gly Arg Met Arg Glu Tyr Gln Thr Thr Thr Val Arg Arg  
 85 90 95  
 Tyr Ser Asn His Met Ile Arg Phe Asn Lys Met Phe Gly Lys His Ser  
 100 105 110  
 Ile

<210> 10203  
 <211> 89  
 <212> PRT  
 <213> B.fragilis

<400> 10203  
 Arg Met Lys Asn Ser Ala Cys His Cys Val Leu Val Arg Val Ala Glu  
 1 5 10 15  
 Lys Ala Asp Asn Ala Arg Asn Tyr Ser Gln Cys Asp Ser Leu Leu Leu  
 20 25 30  
 Gly Asp Lys Cys Gly Ala His Thr Phe Pro Tyr Met Asp Ile His Asn  
 35 40 45  
 Glu Thr Ala Val Val Glu His Glu Ala Thr Thr Ser Lys Ile Ser Glu  
 50 55 60  
 Asp Gln Ile Phe Tyr Cys Asn Gln Gly Gly Thr Asn Gly Phe Pro Arg  
 65 70 75 80  
 Gly Leu Gln Arg Ala Ala Leu Phe Ile  
 85

<210> 10204  
 <211> 77  
 <212> PRT  
 <213> B.fragilis

<400> 10204  
 Arg Leu Ile Asp Thr Ala Ser Val Tyr Gly Asn Glu Arg Ala Val Gly  
 1 5 10 15  
 Met Ala Ile Arg Lys Ser Gly Ile Pro Arg Glu Glu Leu Phe Ile Thr  
 20 25 30  
 Thr Lys Ala Trp Ile Ser Glu Met Gly Tyr Glu Arg Thr Leu Arg Ala

35                      40                      45  
 Leu Asp Thr Ser Leu Ala Arg Leu Gly Leu Asp Tyr Leu Asp Val Tyr  
 50                      55                      60  
 Ile Glu Cys Leu Pro Asn Ile Leu Leu Lys Arg Ile Ile  
 65                      70                      75

<210> 10205  
 <211> 187  
 <212> PRT  
 <213> B.fragilis

<400> 10205  
 Gly Ala Ala Pro Ser Ser Pro Val Val Lys Thr Phe Ala Asp Gly Phe  
 1                      5                      10                      15  
 Glu Glu Ile Glu Ala Leu Thr Thr Ile Asp Thr Leu Arg Arg Ala Gly  
 20                      25                      30  
 Leu Asp Val Glu Ile Val Ser Val Thr Pro Asp Glu Ile Val Val Gly  
 35                      40                      45  
 Ala His Asp Val Ser Val Leu Cys Asp Lys Asn Phe Glu Asn Cys Asp  
 50                      55                      60  
 Phe Phe Asp Ala Glu Leu Leu Phe Leu Pro Gly Gly Met Pro Gly Ala  
 65                      70                      75                      80  
 Ala Thr Leu Asp Lys His Glu Gly Leu Arg Lys Leu Ile Leu Ser Phe  
 85                      90                      95  
 Ala Glu Lys Asn Lys Pro Ile Ala Ala Ile Cys Ala Ala Pro Met Val  
 100                      105                      110  
 Leu Gly Lys Leu Gly Leu Leu Lys Gly Arg Arg Val Thr Cys Tyr Pro  
 115                      120                      125  
 Ser Phe Glu Gln Tyr Leu Asp Gly Ala Asp Cys Thr Asn Glu Pro Val  
 130                      135                      140  
 Val Arg Asp Gly Asn Ile Ile Thr Gly Met Gly Pro Gly Ala Ala Met  
 145                      150                      155                      160  
 Glu Phe Ala Leu Thr Ile Val Asp Thr Leu Leu Gly Lys Glu Lys Val  
 165                      170                      175  
 Asn Glu Leu Val Glu Ala Met Cys Val Arg Arg  
 180                      185

<210> 10206  
 <211> 134  
 <212> PRT  
 <213> B.fragilis

<400> 10206  
 Asp Cys Thr His Phe Gln Val Phe Ile Phe Met Glu Phe Arg Arg Asp  
 1                      5                      10                      15  
 Asn Phe Pro Phe Leu Leu Thr Lys Asn Gln Phe Met Lys Lys Val Leu  
 20                      25                      30  
 Phe Ile Leu Leu Gly Cys Leu Leu Ser Phe Asn Val Met Ala Gln Val  
 35                      40                      45  
 Lys Ala Ile Ser Gly Leu Val Thr Asp Val Thr Gly Glu Pro Val Ile  
 50                      55                      60  
 Gly Ala Ser Val Val Glu Val Gly Thr Thr Asn Gly Val Ile Thr Asp  
 65                      70                      75                      80  
 Leu Asn Gly Lys Phe Ser Leu Lys Val Ala Pro Asn Ser Gln Phe Leu  
 85                      90                      95  
 Val Ser Tyr Ile Gly Tyr Lys Gln Gln Thr Ile Lys Val Gly Ser Glu  
 100                      105                      110  
 Ser Thr Tyr Asn Ile Val Phe Thr Thr Gly Leu Glu Gly Ser Ala Leu  
 115                      120                      125

Ala Ile Arg Ser Glu Asn  
130

<210> 10207  
<211> 70  
<212> PRT  
<213> B.fragilis

<400> 10207  
Ser Pro Leu Ser Val Ser Val Arg Phe Pro Ser Ala Leu Ser Ala Gly  
1 5 10 15  
Asn Gly Asp Val Arg Gly Leu Trp Leu Gly Ala Gly Leu Val Ser Leu  
20 25 30  
Gly Ala Ala Phe Leu Leu Asp Lys Lys Tyr Glu Met Thr Ser Asp Leu  
35 40 45  
Tyr Pro Val Asn Val Cys Tyr Asn Val Met Leu Ala Val Glu Pro Glu  
50 55 60  
Cys Pro Asp Ser Arg Leu  
65 70

<210> 10208  
<211> 374  
<212> PRT  
<213> B.fragilis

<400> 10208  
Glu Asp Ile Thr His Ile Pro Val Ile Glu Asp Ser Ala Ser Val Ser  
1 5 10 15  
Val Thr Ala Asp Ser Val Ala Val Lys Arg Ser Phe Phe Lys Lys Phe  
20 25 30  
Leu Asp Tyr Phe Asn Asp Ala Asn Lys Glu Lys Lys Asn Lys Lys Phe  
35 40 45  
Asp Phe Ser Val Ile Gly Gly Pro His Tyr Ser Ser Asp Thr Lys Leu  
50 55 60  
Gly Leu Gly Leu Val Ala Gly Leu Tyr Arg Thr Asp Arg Ala Asp  
65 70 75 80  
Thr Leu Leu Pro Leu Ser Thr Val Ser Leu Tyr Gly Asp Val Ser Thr  
85 90 95  
Val Gly Phe Tyr Leu Leu Gly Val Arg Gly Ser His Ile Phe Pro Lys  
100 105 110  
Asp Lys Tyr Arg Leu Asn Tyr Asn Leu Tyr Phe Tyr Ser Phe Pro Ser  
115 120 125  
Leu Tyr Trp Gly Val Gly Tyr Arg Asn Ala Val Asn Asp Glu Asn Glu  
130 135 140  
Ser Ser Tyr Lys Arg Phe Gln Ala Gln Val Lys Val Asp Phe Met Phe  
145 150 155 160  
Arg Met Ala Lys Asn Phe Tyr Leu Gly Pro Met Ala Ser Phe Asp Tyr  
165 170 175  
Ile Asp Gly Arg Asn Phe Glu Lys Pro Glu Leu Trp Gln Gly Met Asp  
180 185 190  
Ala Arg Thr Ser Asn Val Ser Ala Gly Leu Ser Leu Val Tyr Asp Ser  
195 200 205  
Arg Asp Phe Leu Thr Asn Ala Tyr Lys Gly Tyr Tyr Leu Arg Ile Asp  
210 215 220  
Gln Arg Phe Ser Pro Ala Phe Leu Gly Asn Asp Tyr Ala Phe Ser Ser  
225 230 235 240  
Thr Glu Leu Thr Thr Ser Tyr Tyr Arg Arg Val Trp Lys Gly Gly Ile  
245 250 255  
Leu Ala Gly Gln Phe His Thr Leu Leu Thr Tyr Gly Asn Pro Pro Trp

6048 10207 10208

260 265 270  
 Gly Leu Met Ala Thr Leu Gly Ser Ser Tyr Ser Met Arg Gly Tyr Tyr  
 275 280 285  
 Asp Gly Arg Tyr Arg Asp Lys Asn Val Val Asp Met Gln Val Glu Leu  
 290 295 300  
 Arg Gln His Val Trp Lys Arg Asn Gly Val Ala Val Trp Val Gly Ala  
 305 310 315 320  
 Gly Asn Val Phe Pro Asp Phe Ser Ser Phe Lys Val Lys His Ile Leu  
 325 330 335  
 Pro Asn Tyr Gly Phe Gly Tyr Arg Trp Glu Phe Lys Lys Arg Val Asn  
 340 345 350  
 Val Arg Leu Asp Leu Gly Phe Gly Lys Gly Gln Thr Gly Phe Ile Phe  
 355 360 365  
 Asn Ile Asn Glu Ala Phe  
 370

<210> 10209  
 <211> 69  
 <212> PRT  
 <213> B.fragilis

<400> 10209  
 Leu Lys Arg Ala Pro Gly Asn Pro Pro Asn Gly Gly Lys Gln Leu Pro  
 1 5 10 15  
 Gln Leu Phe Leu Gln Lys Lys Phe Phe Ser Pro Val Ser Gln Arg Lys  
 20 25 30  
 Lys Gly Lys Tyr Arg Ala Arg Asn Thr Leu Phe Asn Glu Lys Arg Pro  
 35 40 45  
 Tyr Ile Thr Leu Glu Lys Lys Phe Val Gly Tyr Lys Glu Met Glu Trp  
 50 55 60  
 Ser Lys Ala Ile Asn  
 65

<210> 10210  
 <211> 187  
 <212> PRT  
 <213> B.fragilis

<400> 10210  
 Gly Leu Glu Lys Ala Arg Pro Asp Leu Tyr Leu Ile Ser Met Lys Leu  
 1 5 10 15  
 Phe Asn Ser Ile Lys Lys Trp Phe Gly Asn Gln Glu Asn Leu Phe Tyr  
 20 25 30  
 Leu Phe Leu Phe Val Leu Ile Val Pro Asn Val Val Leu Cys Phe Thr  
 35 40 45  
 Glu Pro Leu Pro Leu Val Ala Lys Ile Ala Asn Val Leu Leu Pro Leu  
 50 55 60  
 Gly Cys Tyr Tyr Leu Ile Met Thr Leu Ser Arg Asn Cys Gly Lys Met  
 65 70 75 80  
 Leu Trp Ile Leu Phe Leu Phe Val Phe Phe Gly Ala Phe Gln Ile Val  
 85 90 95  
 Leu Leu Tyr Leu Phe Gly Gln Ser Ile Ile Ala Val Asp Met Phe Leu  
 100 105 110  
 Asn Leu Ala Thr Thr Asn Ser Ser Glu Ala Met Glu Leu Leu Asp Asn  
 115 120 125  
 Leu Leu Pro Ala Leu Ile Thr Ile Val Ile Leu Tyr Ile Pro Ala Leu  
 130 135 140  
 Ile Leu Gly Met Ile Ser Ile Val Arg Lys Arg Thr Leu Ser Val Gly  
 145 150 155 160

Phe Ile Arg Arg Glu Arg Arg Arg Ala Trp Val Val Ala Gly Cys Arg  
                   165                  170                  175  
 Ser Gly Ile Val Gly Ser Gly Leu Pro Val Gly  
                   180                  185

<210> 10211  
 <211> 68  
 <212> PRT  
 <213> B.fragilis

<400> 10211  
 Arg Asp Phe Glu Gly Phe His Phe His Cys Arg Arg Thr His Pro Ala  
 1                  5                  10                  15  
 Glu Asp Arg Glu Ile Tyr Val Leu Val Val Gly Glu Thr Ser Arg Ala  
                   20                  25                  30  
 Leu Asn Trp Ser Leu Tyr Gly Tyr Asp Arg Glu Thr Asn Pro Lys Leu  
                   35                  40                  45  
 Ser Glu Val Ser Gly Leu Thr Ala Phe Thr Asn Val Pro Asp Pro Ile  
                   50                  55                  60  
 Glu Tyr Asn Ser  
 65

<210> 10212  
 <211> 133  
 <212> PRT  
 <213> B.fragilis

<400> 10212  
 Arg Leu Leu Arg Met Cys Leu Thr Gln Ser Asn Thr Thr His Lys Met  
 1                  5                  10                  15  
 Val Pro Met Leu Met Ser Ala Val Ser Ala Glu Asn Phe Asp Ser Ile  
                   20                  25                  30  
 Tyr His Gln Lys Gly Ile Ile Thr Ala Phe Lys Asp Ala Gly Phe Arg  
                   35                  40                  45  
 Thr Ala Phe Phe Ser Asn Gln Gly Tyr Asn Thr Ser Phe Ile Asp Cys  
                   50                  55                  60  
 Phe Gly His Glu Ala Asp His Cys Asp Phe Ile Lys Glu Asp Pro Leu  
 65                  70                  75                  80  
 Thr Ala Gly Gln Asn Leu Ser Asp Asp Tyr Leu Asp Asp Leu Val Gln  
                   85                  90                  95  
 Glu Val Leu Ala Thr Gly Thr Arg Lys Arg Phe Ser Arg Leu Tyr Pro  
                   100                  105                  110  
 Ser Gly Ile His Leu Asn Asn Arg Asn Arg Met Leu Val Gln Thr Ser  
                   115                  120                  125  
 Leu Ile Leu Ala Glu  
 130

<210> 10213  
 <211> 107  
 <212> PRT  
 <213> B.fragilis

<220>  
 <221> UNSURE  
 <222> (44), (54), (70), (83)  
 <223> Identity of amino acid sequences at the above locations are unknown.

<400> 10213  
 Pro Ser Ser Ser Gln Lys Arg Thr Phe Ser Cys Thr Leu Ser Gly Leu

1	5	10	15
Tyr Ser Lys Arg Leu Leu Pro Gly Ile Leu Leu Val Ser Leu Arg Gly			
20		25	30
Gly Lys Leu Lys Ser Glu Phe Phe Ser Pro Ala Xaa Arg Ile Ile Glu			
35		40	45
Thr Ser Ser Pro Arg Xaa Ile Ile Glu Thr Pro Pro Ile Ala Tyr Phe			
50		55	60
Asn Leu Phe Ile His Xaa Glu Lys Ser Met Ser Gly Gly Val Leu Val			
65		70	75
Thr Val Xaa Ile Glu Ile Leu Ser Ser Ser Asn Asn Phe Asn Asp Ser			
85		90	95
Ser Asn Leu Phe Gly Gln Ser Leu Glu Val Thr			
100		105	

&lt;210&gt; 10214

&lt;211&gt; 288

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10214

Ser Pro Ile Lys Phe Leu Phe Ser Tyr Lys Pro Lys Arg Ile Phe Leu			
1	5	10	15
Ile Asp Leu Met Ala Leu Ser Asp Tyr Val Thr Ser Lys Asp Cys Pro			
20		25	30
Asn Lys Phe Glu Glu Ser Leu Lys Leu Phe Asp Glu Asp Arg Ile Ser			
35		40	45
Ile Phe Thr Val Thr Asn Thr Pro Pro Asp Ile Asp Phe Ser Ile Trp			
50		55	60
Ile Asn Lys Leu Lys Tyr Ala Ile Gly Gly Val Ser Met Ile Lys Arg			
65		70	75
Gly Asp Glu Val Ser Met Ile Leu Leu Ala Gly Glu Lys Asn Ser Asp			
85		90	95
Leu Ser Leu Pro Pro Leu Lys Glu Thr Lys Arg Ile Pro Gly Lys Ser			
100		105	110
Arg Leu Glu Tyr Ser Pro Asp Arg Val Gln Glu Lys Val Arg Phe Trp			
115		120	125
Asp Asp Glu Gly Tyr Trp Lys Thr Ile Ile Leu Leu Arg Phe Asp Val			
130		135	140
Leu Thr Met Glu Leu Asp Ala Lys Phe Ile Asn Lys Asp Met Gly Asn			
145		150	155
Ser Phe Ser Val Leu Thr Asp Tyr Ile Glu Ser Phe Leu Ser Glu Lys			
165		170	175
Gly Glu Phe Leu Phe Pro Glu Ala Glu Asn Tyr Leu Asn Glu Gln Lys			
180		185	190
Val Lys Ile Gln Asn Tyr Tyr Pro Leu Phe Glu Ile Ala Arg Thr Cys			
195		200	205
Leu His Leu Leu Ser Tyr Val Glu Lys Tyr Thr Asp Ser Leu Ser Ser			
210		215	220
Glu Glu His Ile Thr Val Leu Gly His Glu Pro Ile Lys Pro Arg Phe			
225		230	235
Phe Lys Lys Asp Lys Met Val Pro Pro Lys Tyr Glu Leu Arg Lys Arg			
245		250	255
Asp Val Trp Asn Leu Lys Arg Gln Arg Asp Asn Tyr Ser Ser Ser Ile			
260		265	270
Ile Thr Phe Lys Ser Ser Pro Arg Gly Trp Lys Tyr Gln Arg Cys Ser			
275		280	285

&lt;210&gt; 10215

&lt;211&gt; 210

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10215

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Asn Ala Tyr Asn Met Lys Glu His Ser Ile Lys Ala Val Arg Leu Thr
1           5           10           15
Pro Thr Val Lys Ala Arg Leu Asp Thr Phe Lys Gly Ser Asp Thr Val
           20           25           30
Ser Val Cys Ile Asp Arg Met Ile Thr Phe Phe Glu Ile Thr Gly Phe
           35           40           45
Asn Pro Arg Tyr Ala Ser Arg Asn Pro Thr Ala Leu Val Glu Lys Arg
           50           55           60
Ile Glu Asp Val Val Arg Ile Ile Lys Ser Gln Glu Arg Asp Ile Leu
65           70           75           80
Lys Pro Val Leu Glu Lys Leu Ser Ala Ile Asn Asn Thr Pro Gln Glu
           85           90           95
Ser Pro Asp Tyr Ala Arg Leu Met Asn Glu Phe Arg Asp Leu Lys Asp
           100          105          110
Glu Asn Arg Lys Leu Lys Glu Arg Leu Gln Ala Asp Asp Leu His Thr
           115          120          125
Gln Asp Ala Ala Val Tyr His Asp Lys Leu Lys Arg Leu Gly Asp Leu
130          135          140
Leu Lys Tyr Gln Leu Asp Pro Glu Lys Phe Ser Thr Ile Lys Tyr Ser
145          150          155          160
Asp Asp Val Arg Val Pro Val Asn Thr Leu Gln Leu Leu Ile Lys Lys
           165          170          175
Ile Asn Glu Glu Tyr Val Leu Val Asn Arg Ile Gly Arg Tyr Thr Leu
           180          185          190
Arg Thr Tyr Arg Ile Thr Lys Ile Asn Ala Pro Gly Leu Val Asp Tyr
           195          200          205
Ser Glu
           210

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&lt;210&gt; 10216

&lt;211&gt; 104

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10216

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Tyr Pro Ile Pro Thr Cys Met Met Ser Ala Leu Ser Phe Ile Leu Tyr
1           5           10           15
Pro Glu Arg Ser Lys Phe Ala Leu Lys Asn Lys Arg Met Lys Gly Leu
           20           25           30
Thr Glu Leu Ile Val Ala Gly Cys Ile Leu Phe Gly Leu Leu Leu Thr
           35           40           45
Pro Leu Val Phe Ser Ile Leu Asp Phe Ile Ser Gly Val Arg Lys Ala
           50           55           60
Arg Gln Arg Gly Glu Arg Ile Thr Ser Asp Arg Tyr Arg Arg Ser Val
65           70           75           80
Lys Lys Gly Pro Val Ile Lys Pro Ala Ala Val Ser Pro Gly Val Glu
           85           90           95
Asp Ser Gly Val Arg Lys Val Ser
           100

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&lt;210&gt; 10217

&lt;211&gt; 276

&lt;212&gt; PRT

&lt;213&gt; B.fragilis



&lt;400&gt; 10217

Lys Ser Arg Tyr Met Asn Asn Tyr Val Lys Thr Ser Val Pro Arg Pro  
 1 5 10 15  
 Val Gly Asn Pro Gly Asn Gly Ile Asn Pro Lys Asp Val Leu Thr Leu  
 20 25 30  
 Ile Asp Ile Asp Asp Leu Val Tyr Phe Pro Pro Arg Asp Gly Ala Gly  
 35 40 45  
 Val Val Leu Glu Gly Asp Ile Val Val Lys Pro Ser Ala Tyr Ser Thr  
 50 55 60  
 Asp Leu Tyr Leu Thr Pro Gly Thr Val Glu Leu Ser Ser Asn Gly Glu  
 65 70 75 80  
 Gly Glu Thr Asp Ala Lys Gly Phe Thr Pro Ser Val Lys Gly Lys His  
 85 90 95  
 Pro Gly Asn Lys Gln Glu Val Arg Glu Phe Lys Thr Asn Trp Leu Gly  
 100 105 110  
 Arg His Cys Ile Ala Ile Leu Gln Tyr Cys Asn Gly Gln Asp Pro Asp  
 115 120 125  
 Ile Leu Gly Ser Pro Cys Asn Pro Leu Glu Met Ser Val Asn Tyr Thr  
 130 135 140  
 Gly Asn Lys Asp Gly Asn Ala Ser Glu Phe Thr Phe Thr Gln Ile Ser  
 145 150 155 160  
 Lys Gly Asp Asp Ile Gly Ile Tyr Lys Gly Thr Ile Pro His Glu Glu  
 165 170 175  
 Pro Val Ala Thr Val Pro Ala Ser Ala Thr Glu Ile Pro Phe Lys Gly  
 180 185 190  
 Arg Gly Gln Tyr Gln Leu Ser Ala Gly Ala Ala Lys Ile Ala Thr Ile  
 195 200 205  
 Lys Gly Ala Lys His Gly Asp Leu Phe Thr Leu Leu Gly Val Val Ser  
 210 215 220  
 Gly Val Ala Pro Thr Ile Glu Lys Ala Gly Gln Thr Ala Phe Met Leu  
 225 230 235 240  
 Lys Asn Gly Lys Thr Phe Thr Ala Ser Pro Gly Ser Gln Ile Thr Phe  
 245 250 255  
 Lys Ala Phe Asp Thr Gly Gly Gly Ala Ile Gln Cys Val Glu Gln Ser  
 260 265 270  
 Arg Phe Glu Val  
 275

&lt;210&gt; 10218

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10218

Asn Gly Ile Gln Lys Lys Lys Leu Ile Phe His Arg Arg Arg Leu Glu  
 1 5 10 15  
 Ile Lys Arg Ala Ser Trp Leu Lys Met Gly Thr Arg Tyr Leu His Pro  
 20 25 30  
 Cys Asp Arg Ser Glu Ala Gly Met Gln Ala Arg Lys Leu Asp Asn Glu  
 35 40 45  
 Ile Leu Ser Cys Asn Asn Arg Leu Met Asn Leu Tyr Glu  
 50 55 60

&lt;210&gt; 10219

&lt;211&gt; 495

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10219

Leu Phe Leu His Val Gln Thr Leu Val Lys Asn Ser Phe Arg Arg Pro  
 1 5 10 15  
 Arg Arg Ser Glu Ala Glu Arg Gln Leu Pro Glu Gly Gln Met Val Lys  
 20 25 30  
 Tyr Asp Tyr Ile Lys Gly Arg Gln Ala Glu Gly Leu Gly Thr Lys Asn  
 35 40 45  
 Arg Phe Arg Tyr Phe Arg Lys Arg Ser Gly Lys Thr Arg Gln Leu Pro  
 50 55 60  
 Phe Leu Ser Pro Arg Gln Val Ile Glu Ser Gly His Val Gly Thr Gly  
 65 70 75 80  
 Pro Ala Ala Ala Gly Leu Ala Pro Asp Gly Thr Pro Pro Gly Pro Pro  
 85 90 95  
 His His Gln Val Leu Glu Gly Val Gly Glu Val Arg Gly Glu His Gly  
 100 105 110  
 Gln Phe Leu Gly Leu Gln Leu Leu Gly Leu Leu Asp Leu Val Asp Asp  
 115 120 125  
 Leu Leu Leu Ser Leu Val Thr Asp Thr Arg Arg Arg Leu Leu Asp Thr  
 130 135 140  
 Gly Asp Gly Leu Ala Thr Val His Arg Val Asn Lys Gln Ser Gly Glu  
 145 150 155 160  
 Gly Val Val Val Ala Cys His Gln Leu Leu His Glu Ile Val Leu Phe  
 165 170 175  
 Ile Leu Ala Asp Ile Gly Leu Phe Ala Ala His Gln Val Asp Asn Pro  
 180 185 190  
 Ser Arg Ala Val Thr Val Thr Val Tyr Leu Asp Gly Leu Leu Glu Leu  
 195 200 205  
 Ala Gly Val Ile Leu Phe Leu Leu Leu Glu Val Ile Ala Arg Pro Val  
 210 215 220  
 Val Ile Gln Val Gln Phe Leu Leu Leu Met Val Lys Glu Glu Cys Gln  
 225 230 235 240  
 Glu Leu Val Gly Gln Leu Pro Glu Pro Ser Gly Arg Lys Leu Val Lys  
 245 250 255  
 Val Leu Val Lys Ala Val Gln Arg Ser Val Leu Leu Ser Tyr Tyr Gln  
 260 265 270  
 Gly Gln Leu Val Thr Glu Val His Ala Ala Val Asp Gly Leu Ala Ala  
 275 280 285  
 Pro Glu Glu Thr Gln Val Gln Ala Ala Leu Cys Arg Phe Ser Val Pro  
 290 295 300  
 Cys Pro Val Gly Ile Leu Val Pro Phe Pro Glu Ser Asp Ile Glu Ala  
 305 310 315 320  
 Arg Val Thr Ala Lys Pro Arg Thr His Pro His Tyr Arg Leu Lys Glu  
 325 330 335  
 Val Val Glu Phe Glu Arg Pro Val Glu Lys Ala Thr Asp Val Leu Arg  
 340 345 350  
 Arg Lys Asp Val Asp Val Gly Lys Thr Arg Gly Val Asp Glu Val Gly  
 355 360 365  
 Leu Pro Leu Ala His Leu Gln Gln Pro Arg Leu Val Pro Gly Asp Phe  
 370 375 380  
 Leu Leu Lys Ser Pro Ala Val Arg Pro Cys Pro Ser Arg Phe Tyr Gln  
 385 390 395 400  
 Ala Asp Ala Gln Ala Val Gln Leu Arg Ser Arg Leu Gly Asp Thr Gln  
 405 410 415  
 Asp Ala Leu Arg Ile Asp Gln Thr Asp Val Thr Glu Val Pro Val Ile  
 420 425 430  
 Leu Thr Leu Gln His Val Gly His Val Gly Gly Asn Gly His Pro Gln  
 435 440 445  
 Lys Ile Val Ala Ala Ser Val Thr Tyr Gly Ile Pro Ala Gln Tyr Gly  
 450 455 460  
 His Gly Pro Val Asp Phe Ile Val Gly Gly Val Phe Gly Phe Val Glu

465 470 475 480  
 Glu Gln Met Asn Asp Arg Phe Ala Arg Gln Lys Gly Gly Val Val  
 485 490 495

<210> 10220  
 <211> 115  
 <212> PRT  
 <213> B.fragilis

<400> 10220  
 Ile Tyr Met Asn Asn Met Glu Arg Leu Pro Ala Asp Thr Phe Phe Leu  
 1 5 10 15  
 Asp Leu Glu Leu Arg Gln Glu Val Glu Arg Met Ala Ser Leu Gly Tyr  
 20 25 30  
 Ala Pro Asp Asp Ile Ala Ser Tyr Leu Gly Leu Asp Ala Glu Ser Phe  
 35 40 45  
 Val Phe Asp Ala Gly Arg Glu Gly Thr Thr Val Tyr Ser Leu Met Arg  
 50 55 60  
 Arg Gly Ala Leu Lys Ala Gly Ala Gly Val Glu Leu Lys Leu Gln Glu  
 65 70 75 80  
 Gln Ala Leu Ser Gly Asp Leu Asp Ala Met Glu Leu Leu Glu Lys Val  
 85 90 95  
 Arg Gly Arg Arg Ser Phe Glu Ile Ile Val Lys Gln Ile Asp Glu Asp  
 100 105 110  
 Glu Phe Gly  
 115

<210> 10221  
 <211> 555  
 <212> PRT  
 <213> B.fragilis

<400> 10221  
 Pro Thr Asp Asp Val Glu Val Arg Tyr Ser His Ile Ile Lys Val His  
 1 5 10 15  
 His Arg Leu Asp Arg His His Gln Pro Gly Cys Arg Arg Gly Pro Ala  
 20 25 30  
 Ala Lys Ser Thr Val Ile Gln Ala Arg Arg Ser Ala Asp Cys Val Tyr  
 35 40 45  
 Asp Met Pro Gly Ala Pro Leu Ala Phe Val Gly Asn Thr Tyr Thr Asn  
 50 55 60  
 Leu Arg Asp Asn Ile Met Pro Ala Val Lys Thr Gly Trp Glu Leu Met  
 65 70 75 80  
 Gly Leu Tyr Glu Gly Val His Tyr Val Ser Ser Cys Arg Pro Pro Glu  
 85 90 95  
 Ser Trp Arg Arg Arg Cys Ser Val Ile Val Asp Asp Tyr Lys Asn Thr  
 100 105 110  
 Val Ser Phe Phe Asn Gly Cys Ile Ile Phe Leu Gly Ser Leu Asp His  
 115 120 125  
 Pro Ser Leu Leu Ala Gly Lys Ser Val Val His Leu Phe Phe Asp Glu  
 130 135 140  
 Ser Lys Tyr Ala Pro Asp Asn Lys Val Asn Arg Ala Met Pro Val Leu  
 145 150 155 160  
 Arg Gly Asp Ala Ile Arg Tyr Gly Cys Ser His Tyr Phe Leu Gly Val  
 165 170 175  
 Thr Ile Thr Thr Asp Met Pro Asp Val Leu Glu Gly Glu Tyr Asp Trp  
 180 185 190  
 Tyr Phe Arg Tyr Val Cys Leu Val Asp Pro Gln Arg Ile Leu Arg Ile  
 195 200 205

Ala Gln Ala Ala Ala Glu Leu Asn Ser Leu Arg Val Arg Leu Val Lys  
 210 215 220  
 Ala Gly Arg Thr Arg Thr Asp Cys Gly Ala Leu Lys Lys Lys Ile Ala  
 225 230 235 240  
 Trp Tyr Glu Ala Gly Leu Leu Lys Met Arg Lys Gly Gln Thr Tyr Phe  
 245 250 255  
 Ile Asn Ala Ser Ser Phe Thr Asn Ile Asp Ile Leu Thr Pro Glu Tyr  
 260 265 270  
 Val Arg Arg Leu Leu Asp Gly Ala Leu Glu Leu His Asp Phe Leu Lys  
 275 280 285  
 Ser Val Val Gly Met Arg Pro Gly Leu Arg Arg Asp Thr Arg Phe Tyr  
 290 295 300  
 Ile Ala Phe Gly Glu Arg His Lys Tyr Thr Asp Gly Thr Arg Tyr Gly  
 305 310 315 320  
 Glu Pro Ala Gln Ser Cys Leu Asp Leu Arg Phe Leu Arg Arg Gly Glu  
 325 330 335  
 Pro Ile Asp Gly Gly Val Asp Phe Gly Asn Gln Leu Ser Leu Ile Val  
 340 345 350  
 Gly Gln Gln Asp Gly Pro Leu Tyr Arg Leu His Lys Asn Phe Tyr Glu  
 355 360 365  
 Leu Pro Pro Gly Trp Phe Arg Gln Leu Ala Asp Gln Phe Leu Ala Phe  
 370 375 380  
 Phe Leu Asn His Glu Glu Lys Glu Leu Asn Leu Tyr Tyr Asp Arg Ala  
 385 390 395 400  
 Gly Asn Asn Phe Glu Lys Gln Lys Glu Asp Tyr Ala Arg Lys Leu Lys  
 405 410 415  
 Gln Ala Ile Glu Ile Asp Gly Asp Gly Asn Arg Thr Gly Trp Ile Val  
 420 425 430  
 Asn Leu Met Ser Arg Lys Gln Ser Asn Ile Arg Gln Asp Glu Glu Tyr  
 435 440 445  
 Asp Phe Met Gln Glu Leu Met Thr Gly Asp Asn Asp Ala Leu Pro Thr  
 450 455 460  
 Leu Leu Val Asp Ala Val Asn Cys Arg Glu Thr Ile Ser Ser Ile Glu  
 465 470 475 480  
 Lys Ala Pro Ala Gly Ile Arg Tyr Lys Gly Gln Gln Lys Ile Ile Tyr  
 485 490 495  
 Lys Val Lys Lys Ser Glu Lys Leu Glu Pro Lys Lys Leu Pro Met Leu  
 500 505 510  
 Ser Thr Asn Phe Ser Asp Ala Phe Lys Tyr Leu Met Met Arg Gly Ala  
 515 520 525  
 Trp Arg Arg Ala Val Arg Gly Lys Ser Gly Arg Ser Arg Ser Gly Pro  
 530 535 540  
 Tyr Met Pro Gly Leu Asp Asp Leu Thr Gly Gly  
 545 550 555

&lt;210&gt; 10222

&lt;211&gt; 358

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10222

Trp Ser Asp Ile Lys Thr Ile Pro Leu Ser Gly Asn Cys Leu Val Phe  
 1 5 10 15  
 Pro Leu Arg Gly Lys Ala Ile Ala Phe Phe Gln Ser Phe Val Pro Gln  
 20 25 30  
 Pro Val Ser Gly Ile Phe Thr Ala Tyr His Leu Lys Phe Asn Ser Met  
 35 40 45  
 Lys Glu Gln Ile Ile Ser Tyr Leu Glu Gly Pro Arg Asp Tyr Ser Gln  
 50 55 60

Gly Val Ala Leu Tyr Glu Gln Phe Gly Pro Asn Arg Met Leu Lys Ala  
 65 70 75 80  
 Lys Phe Arg Gln Ile Gly Glu Cys Glu Met Thr Arg Gly Thr Leu Ile  
 85 90 95  
 Glu Glu Leu Arg Lys Leu Ser Gly Met Ser Glu Ala Glu Phe Ala Gly  
 100 105 110  
 Met His Arg Lys Ala His His Ile Pro Ser Lys Ala Glu Gln Pro Val  
 115 120 125  
 Ser Pro Val Pro Val Arg Met Tyr Ala Asp Asp Leu Leu Ile Ala Leu  
 130 135 140  
 Ala Ser Arg Leu Gly Val Thr Val Glu Lys Leu Val Ser Asp Asp Phe  
 145 150 155 160  
 Val Lys Glu Arg Leu Ser Gln Ser Pro Asp Met Glu Gln Val Arg Gly  
 165 170 175  
 Leu Lys Glu Glu Leu Glu Asn Ala Gln Ser Thr Tyr Ser Glu Ala Pro  
 180 185 190  
 Glu Thr Val Arg Lys Ala Ile Arg Phe Arg Glu Glu Phe Pro Phe Leu  
 195 200 205  
 Arg Gln Pro Asp Cys Pro Asp Glu Leu Lys Val Leu Val Ala Asp Met  
 210 215 220  
 Phe Ser Ala Tyr Asp Leu Tyr Arg Glu Ser His Arg Met Leu Val Glu  
 225 230 235 240  
 Thr Pro Asp Asp Val Ala Thr Gly Glu Thr Tyr Leu Trp Ala Lys Thr  
 245 250 255  
 Ala Val Glu Asn Phe Leu Glu Asn Arg Gln Met Trp Glu Glu Leu Glu  
 260 265 270  
 Tyr Tyr Lys Asn Asn Gly Glu Ile Leu Gly Lys Ala Gln Ala Met Arg  
 275 280 285  
 Gln Ala Arg Glu Lys Gln Glu Ile Ser Ser Leu Thr Asp Leu Glu Leu  
 290 295 300  
 Ser Lys Gln Leu Gly Asn Ala Lys Ser Asn Ile Ser Lys Gly Lys Asn  
 305 310 315 320  
 Glu Leu Glu Lys Ala Pro Asp Glu Glu Lys Arg Val Lys Ala Met Glu  
 325 330 335  
 Lys Thr Arg Lys Trp Thr Glu Arg Lys Asn Leu Leu Glu Ala Glu Met  
 340 345 350  
 Glu Ser Arg Lys Lys Asn  
 355

&lt;210&gt; 10223

&lt;211&gt; 209

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10223

Ser Lys Ser Met Lys Thr Asn Leu Val Lys Pro Ser Arg Val Asn Phe  
 1 5 10 15  
 Glu Lys Ala Asp Ile Gly Gln Ile Gly Arg Ile Leu Ala Thr Gly Asp  
 20 25 30  
 Leu Asp Ser Leu Pro Glu Glu Gln Arg Ala Tyr Tyr Asp Leu Met Glu  
 35 40 45  
 Met Val Arg Gly Leu Arg Ala Arg Met Arg Tyr Asn Gly Lys Val Ile  
 50 55 60  
 Thr Lys Ala Gly Ile Ile Arg Leu Leu Lys Ser Glu Val Tyr Gly Leu  
 65 70 75 80  
 Ser Asp Trp Met Ala Arg Gln Val Tyr Ala Asp Ser Val Asn Phe Phe  
 85 90 95  
 Tyr Ser Gln Glu Asn Ile Arg Pro Gln Ala Phe Ala Asn Leu Tyr Ala  
 100 105 110

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<210> 10224
<211> 337
<212> PRT
<213> B.fragilis
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Phe	Cys	Gly	Ala	Glu	Ile	Asn	Ile	Ser	Lys	Met	Asn	Ala	Lys	Lys	Asn
1				5					10					15	
Leu	Met	Ala	Phe	Ile	Leu	Thr	Val	Ser	Ser	Ile	Ala	Leu	Met	Val	Ile
			20					25					30		
Cys	Leu	Gly	Leu	Glu	Met	Val	Lys	Ala	Cys	Ala	Gly	Gly	Asp	Gly	Ser
		35					40				45				
Glu	Trp	Lys	Lys	Lys	Val	Ala	Ala	Asp	Thr	Leu	His	Val	Val	His	Tyr
	50				55					60					
Thr	Arg	Pro	Asp	Leu	Pro	Gln	Ile	Met	Thr	Asp	Pro	Ala	Glu	Arg	Ala
65				70						75				80	
Val	Tyr	Tyr	Val	Lys	His	Tyr	Trp	Asp	Gly	Tyr	Leu	Thr	Gly	Asp	Thr
			85						90				95		
Ala	Trp	Val	Asn	Ser	Gly	Asp	Thr	Glu	Gln	Leu	Tyr	Val	Asp	Phe	Ile
			100					105					110		
Asp	Ala	Leu	Lys	Tyr	Val	Glu	Pro	Glu	Thr	Gly	Arg	Lys	Ala	Leu	His
		115					120					125			
Thr	Met	Met	Val	Arg	Met	Glu	Ala	Asp	Ser	Thr	Ala	Tyr	Arg	Arg	Phe
	130					135					140				
Gly	Leu	Leu	Gly	Glu	Lys	Tyr	Leu	Asn	Glu	Pro	Asn	Ser	Pro	Met	Arg
145					150					155					160
Asn	Glu	Asp	Phe	Tyr	Ile	Ala	Val	Leu	Glu	Gln	Met	Leu	Gln	Ser	Asp
			165						170					175	
Arg	Leu	Gln	Glu	Trp	Glu	Lys	Ile	Arg	Pro	Ala	Asp	Arg	Leu	Lys	Gln
			180					185					190		
Ala	His	Lys	Asn	Arg	Pro	Gly	Met	Lys	Ala	Ala	Asp	Phe	Thr	Tyr	Val
		195					200					205			
Thr	Val	His	Gly	Asp	Asn	Ser	Arg	Met	Ser	Arg	Leu	Lys	Ala	Gln	Tyr
	210					215					220				
Thr	Met	Leu	Phe	Phe	Tyr	Asp	Pro	Asp	Cys	Ser	Asn	Cys	Arg	Lys	Phe
225					230					235				240	
Glu	Lys	Leu	Phe	Ala	Glu	Ile	Pro	Ala	Phe	Val	Glu	Met	Val	Glu	Asn
			245						250					255	
Gly	Thr	Leu	Arg	Val	Leu	Ala	Ile	Tyr	Pro	Asp	Glu	Asn	Arg	Glu	Glu
			260					265					270		
Trp	Ala	Ala	Lys	Ala	Val	Tyr	Met	Pro	Gln	Gly	Trp	Ile	Val	Gly	Trp
		275					280						285		
Asn	Lys	Ala	Gly	Asp	Ile	Arg	Thr	Arg	Gln	Leu	Tyr	Asp	Ile	Arg	Ala
	290					295					300				

Thr Pro Thr Ile Tyr Leu Leu Asp Gly Arg Lys Arg Val Ile Leu Lys  
 305 310 315 320  
 Asp Thr Ser Met Glu Gln Leu Ile Asp Tyr Leu Ala Thr Gln Ala Gly  
 325 330 335  
 Lys

<210> 10225  
 <211> 126  
 <212> PRT  
 <213> B.fragilis

<400> 10225  
 Thr Leu Lys Asp Met Val Glu Ile Arg Lys Ile Glu Glu Val Trp Gly  
 1 5 10 15  
 Gly Val Asp Ile Pro Glu Ile Thr Gly Val Tyr Asp Pro Leu Ser Gly  
 20 25 30  
 Leu Arg Asp Gly Thr Ile Thr Ser Gln Ala Pro Ile Val Val Ser Gly  
 35 40 45  
 Tyr Asn Leu Asn Arg Tyr Ala Leu Glu Asn Ile Arg Leu Cys Leu Val  
 50 55 60  
 Thr His Ala Lys Pro Glu Gln Val Ile Asp Ile Arg Leu Val Tyr Thr  
 65 70 75 80  
 Tyr Ser Glu Gly Lys Val Val Val Ala Leu Pro Glu Leu Lys Pro Gly  
 85 90 95  
 Glu Tyr Arg Pro Ala Val Ile Leu Lys Gly Asp Glu Lys Lys Val Tyr  
 100 105 110  
 Val Leu Pro Met Arg Trp Val Val Arg Gly Arg Trp Arg Arg  
 115 120 125

<210> 10226  
 <211> 71  
 <212> PRT  
 <213> B.fragilis

<400> 10226  
 Thr Gly Leu Leu Leu His Arg Gln Leu Tyr Pro Phe Pro Phe Glu  
 1 5 10 15  
 Val Tyr Ala Gln Tyr Phe His Arg Asp Val Leu Val Asn Gly Asp His  
 20 25 30  
 Phe Gly Gly Ile Gly Asp Glu Ser Val Gly Lys Leu Gly Glu Met Asp  
 35 40 45  
 Lys Pro Val Leu Leu Asp Ala Tyr Ile Asp Lys Ser Ser Glu Val Gly  
 50 55 60  
 Asp Val Ala Asp Asn Thr Gly  
 65 70

<210> 10227  
 <211> 708  
 <212> PRT  
 <213> B.fragilis

<400> 10227  
 Phe Met Glu Ile Phe His Lys Met Ile Ser Ala Ala Leu Asn Leu Pro  
 1 5 10 15  
 Glu Lys Gln Ile Ser Asn Thr Leu Gly Leu Leu Ala Glu Gly Ala Thr  
 20 25 30  
 Ile Pro Phe Ile Ser Arg Tyr Arg Lys Glu Ile Thr Gly Gly Leu Asp  
 35 40 45

Glu Val Gln Ile Glu Ser Ile Lys Thr Gln Tyr Asp Lys Leu Ser Glu  
 50 55 60  
 Leu Ala Lys Arg Lys Glu Thr Ile Leu Gly Thr Ile Gly Glu Gln Gly  
 65 70 75 80  
 Lys Leu Thr Pro Glu Leu Arg Gln Arg Ile Asp Ala Thr Trp Asp Ala  
 85 90 95  
 Thr Ala Leu Glu Asp Ile Tyr Leu Pro Tyr Lys Pro Lys Arg Lys Thr  
 100 105 110  
 Arg Ala Glu Ala Ala Arg Gln Lys Gly Leu Glu Pro Leu Ala Leu Leu  
 115 120 125  
 Leu Met Met Gln Arg Glu Asn Asn Leu Gly Ser Arg Ile Pro Ala Phe  
 130 135 140  
 Val Lys Gly Asp Val Lys Asp Ala Glu Asp Ala Leu Lys Gly Ala Arg  
 145 150 155 160  
 Asp Ile Ile Ala Glu Gln Val Ser Glu Asp Glu Arg Ala Arg Asn Ala  
 165 170 175  
 Val Arg Asn Leu Phe Ala Arg Gln Ala Val Ile Ser Ala Lys Val Val  
 180 185 190  
 Lys Gly Lys Asp Glu Glu Ala Ala Lys Tyr Arg Asp Tyr Phe Asp Phe  
 195 200 205  
 Ser Ser Pro Leu Lys Arg Cys Thr Ser His Arg Leu Leu Ala Ile Arg  
 210 215 220  
 Arg Ala Glu Ala Glu Gly Leu Leu Lys Val Ser Ile Thr Pro Asp Asp  
 225 230 235 240  
 Asp Glu Cys Leu Glu Arg Leu Asp Arg Gln Phe Val Arg Ser Asn Asn  
 245 250 255  
 Glu Cys Gly Arg Gln Val Ala Glu Ala Val Gln Asp Ala Tyr Arg Arg  
 260 265 270  
 Leu Leu Lys Pro Ser Ile Glu Thr Glu Phe Ala Ser Leu Ser Lys Glu  
 275 280 285  
 Gln Ala Asp Asp Glu Ala Ile Arg Val Phe Ala Glu Asn Leu Arg Gln  
 290 295 300  
 Leu Leu Leu Ala Pro Pro Leu Gly Gln Lys Arg Val Met Gly Ile Asp  
 305 310 315 320  
 Pro Gly Phe Arg Thr Gly Cys Lys Val Val Cys Leu Asp Ala Gln Gly  
 325 330 335  
 Asn Leu Val His Asn Glu Asn Ile Tyr Pro His Pro Pro Val Asp Lys  
 340 345 350  
 Lys Thr Glu Ala Ala Ser Lys Leu Arg Lys Met Ile Glu Ala Tyr Lys  
 355 360 365  
 Ile Glu Ala Ile Ala Ile Gly Asn Gly Thr Ala Ser Arg Glu Thr Glu  
 370 375 380  
 Asn Phe Val Thr His Gln Gln Phe Asp Arg Pro Val Gln Val Phe Val  
 385 390 395 400  
 Val Ser Glu Gln Gly Ala Ser Ile Tyr Ser Ala Ser Lys Thr Ala Arg  
 405 410 415  
 Asp Glu Phe Pro Asp Tyr Asp Val Thr Val Arg Gly Ala Val Ser Ile  
 420 425 430  
 Ala Arg Arg Leu Met Asp Pro Leu Ala Glu Leu Val Lys Ile Asp Pro  
 435 440 445  
 Lys Ser Ile Gly Val Gly Gln Tyr Gln His Asp Val Asp Gln Thr Lys  
 450 455 460  
 Leu Lys Lys Ser Leu Asp Gln Thr Val Glu Asn Cys Val Asn Gln Val  
 465 470 475 480  
 Gly Val Asn Leu Asn Thr Ala Ser Ser His Leu Leu Thr Tyr Ile Ser  
 485 490 495  
 Gly Leu Gly Pro Gln Leu Ala Gln Asn Ile Val Ala Tyr Arg Ala Ala  
 500 505 510  
 Asn Gly Ala Phe Ala Ser Arg Lys Glu Leu Met Lys Val Pro Arg Met



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<210> 10228
<211> 108
<212> PRT
<213> B.fragilis
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<210> 10229
<211> 277
<212> PRT
<213> B.fragilis
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```

<400> 10229
Arg His Ile Val Cys Val Asp Ser Asn Gln Ser Trp Arg Ile Val Ser
1          5          10          15
Asp Lys Ala Ala Asp Trp Val Glu Val Ser Glu Pro Glu Leu Leu Gln
20          25          30
Gly His Tyr Asp Gly Arg Phe Thr Val Lys Val His Ser Asn Ala Gly
35          40          45

```

Tyr Arg Val Arg Gly Gly Phe Pro Ala Ala Arg His Thr Val Leu Ser  
 50 55 60  
 Leu Val Asn Asp Thr Gly Val Val Arg Asp Ile Leu Ile Tyr Gln Gly  
 65 70 75 80  
 Gly Tyr Val Arg Ile Arg Gly Lys Tyr Trp Leu Asp Arg Asn Leu Ala  
 85 90 95  
 Ala Gly Gly Lys Leu Ala Gln Val Ala Ile Pro Leu Gly Leu Glu Val  
 100 105 110  
 Asp Thr Thr Leu Asn Arg Gly Thr Tyr Phe Gln Phe Gly Cys Pro Thr  
 115 120 125  
 Asp Arg Trp Glu Glu Asn Phe Met Pro Cys Arg Gly Ser Trp Tyr Asp  
 130 135 140  
 Gly Thr Ala Glu Ser Pro Ala Arg Ile Asn Glu Leu Asp Pro Ser Pro  
 145 150 155 160  
 Glu Gly Trp Arg Leu Pro Ser Arg Ile Glu Met Glu Ala Leu Met Asn  
 165 170 175  
 Ser Pro Ala Ala Pro Met Glu Leu Gln Arg Glu Glu Asp Arg Thr Asn  
 180 185 190  
 Ile Cys Leu Leu Ser Asp Asp Gly Val Pro Val Tyr Leu Pro Leu Cys  
 195 200 205  
 Gly His Arg Ser His Ile Asn Gly Cys Arg Ile Val Ile Pro His Gly  
 210 215 220  
 His Arg Tyr Trp Thr Gly Ser Ser Gln Ser Pro Val Tyr Gly Tyr Ser  
 225 230 235 240  
 Leu Cys Val Glu Pro Ser Arg Gln Met Tyr Leu Met His Asp Met Lys  
 245 250 255  
 Lys Tyr Gly Phe Pro Val Arg Ser Ile Phe Asn Asp Glu Arg Gln Met  
 260 265 270  
 Val Asn Asp Lys Leu  
 275

<210> 10230

<211> 304

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (304)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 10230

Gly Lys Met Thr His Arg Ile Gln Gln Glu Ser Ile Lys Arg Arg Leu  
 1 5 10 15  
 Ala Lys Leu Ala Ala Pro Ile Phe Ile Glu Thr Leu Leu Ile Met Met  
 20 25 30  
 Leu Gly Ala Val Asp Thr Ile Met Leu Ser Arg His Ser Asp Asn Ser  
 35 40 45  
 Val Ala Ala Val Gly Val Val Asn Gln Ile Ile Met Leu Thr Phe Leu  
 50 55 60  
 Val Phe Glu Val Ile Asn Leu Gly Thr Ser Val Leu Cys Ser Gln Tyr  
 65 70 75 80  
 Leu Gly Ala Arg Leu Glu Lys Lys Val Val Gln Val Val Gly Val Ser  
 85 90 95  
 Leu Leu Val Asn Leu Leu Val Gly Gly Ile Ile Ser Leu Ile Leu Phe  
 100 105 110  
 Thr Met Ala Arg Thr Ile Leu Gln Trp Met Gly Leu Gly Pro Glu Leu  
 115 120 125  
 Met Ala Asp Gly Met Asp Tyr Met Arg Ile Val Gly Ala Phe Ala Phe

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<210> 10231
<211> 257
<212> PRT
<213> B.fragilis
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<400>	10231															
Lys	Gln	Lys	Thr	Met	Asn	Lys	Glu	Val	Asp	Leu	Ser	Val	Ser	Cys	Leu	
1				5					10					15		
Gly	Lys	Val	Lys	Glu	Leu	Lys	Tyr	Asp	Val	Ile	Ile	Leu	Pro	Trp	Gly	
			20					25					30			
Ala	Thr	Glu	Pro	His	Asn	Leu	His	Leu	Pro	Tyr	Leu	Thr	Asp	Cys	Ile	
		35					40					45				
Leu	Pro	His	Asp	Ile	Ala	Val	Glu	Ala	Ala	Glu	Leu	Ala	Leu	Ser	Arg	
	50					55					60					
Ser	Gly	Val	Arg	Cys	Met	Val	Met	Pro	Pro	Val	Pro	Phe	Gly	Ala	His	
65					70					75					80	
Asn	Pro	Gly	Gln	Arg	Glu	Leu	Pro	Phe	Cys	Ile	His	Thr	Arg	Tyr	Ala	
				85					90					95		
Thr	Gln	Gln	Ala	Ile	Leu	Glu	Asp	Ile	Val	Ser	Ser	Leu	His	Val	Gln	
			100					105					110			
Gly	Phe	Arg	Lys	Leu	Leu	Ile	Leu	Ser	Gly	His	Gly	Gly	Asn	Asn	Phe	
		115					120					125				
Lys	Gly	Met	Ile	Arg	Asp	Leu	Ala	Phe	Glu	Tyr	Pro	Asp	Phe	Leu	Ile	
	130					135					140					
Ala	Ala	Ala	Asn	Trp	Phe	Glu	Val	Val	Ser	Pro	Lys	Gly	Tyr	Phe	Glu	
145					150					155					160	
Ala	Glu	Ile	Asp	Asp	His	Ala	Gly	Glu	Ser	Glu	Thr	Ser	Val	Met	Met	
				165					170					175		
His	Tyr	His	Pro	Glu	Leu	Val	Asn	Leu	Ala	Glu	Ala	Gly	Asp	Gly	Glu	
			180					185					190			
Ser	Lys	Pro	Phe	Ala	Ile	Ala	Ser	Leu	Asn	Glu	Lys	Val	Ala	Trp	Val	
		195					200					205				
Pro	Arg	His	Trp	Asp	Lys	Ala	Thr	Val	Asp	Ser	Gly	Val	Gly	Asn	Pro	
	210					215					220					
Lys	Lys	Ala	Thr	Ala	Glu	Lys	Gly	Glu	Arg	Tyr	Val	Lys	Pro	Ile	Val	
225					230					235					240	
Glu	Lys	Leu	Ala	Gly	Leu	Phe	Glu	Glu	Met	Ala	Gln	His	Asp	Leu	Tyr	

245

250

255

Glu

&lt;210&gt; 10232

&lt;211&gt; 118

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10232

Asn	Asn	Met	Ala	Glu	Glu	Leu	Thr	Phe	Ile	Ser	Gly	Ser	Lys	Glu	Glu
1				5					10					15	
His	Tyr	Leu	Ser	Leu	Leu	Pro	Gln	Val	Arg	Ser	Leu	Ile	Glu	Gly	Glu
			20					25					30		
Val	Asp	Leu	Val	Ala	Asn	Leu	Ala	Asn	Val	Ala	Ala	Ala	Leu	Lys	Glu
			35				40					45			
Ala	Phe	Asp	Phe	Phe	Trp	Val	Gly	Phe	Tyr	Leu	Val	Lys	His	Asp	Gln
	50					55					60				
Leu	Val	Leu	Gly	Pro	Phe	Gln	Gly	Ser	Gly	Ala	Cys	Thr	Arg	Ile	Pro
65					70					75				80	
Lys	Gly	Lys	Gly	Val	Trp	Gly	Thr	Ala	Trp	His	Glu	Gly	Ala	Thr	Leu
				85				90						95	
Leu	Val	Pro	Asp	Val	Glu	Ile	Phe	Pro	Gly	Gln	Ile	Ala	Leu	Glu	Ile
			100					105						110	
Cys	Phe	Pro	Asp	Arg	Lys										
			115												

&lt;210&gt; 10233

&lt;211&gt; 66

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10233

Glu	Phe	Lys	Asn	Ile	Phe	Leu	Leu	Lys	Gly	Ala	Cys	Arg	Lys	Lys	Ser
1			5						10					15	
Pro	Phe	Ile	Leu	Leu	Arg	Met	Thr	Thr	Thr	Gly	Met	Asp	Gly	Lys	Ala
			20					25					30		
Thr	Val	Ile	Leu	His	Asn	Tyr	Glu	Asp	Lys	Lys	Tyr	Pro	Ala	Val	Leu
		35					40				45				
His	Gly	Asn	Arg	Leu	Trp	Leu	Arg	Pro	Tyr	Glu	Ala	Ile	Ala	Trp	Lys
	50					55					60				
Leu	Thr														
65															

&lt;210&gt; 10234

&lt;211&gt; 152

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10234

Lys	Leu	Tyr	Asp	Met	Lys	Thr	Leu	Thr	Phe	Lys	Tyr	Leu	Lys	Leu	Phe
1				5					10					15	
Leu	Leu	Ala	Val	Ala	Met	Ile	Asn	Leu	Thr	Ser	Cys	Glu	Ile	Glu	Ile
			20					25					30		
Asp	Asp	Phe	Tyr	Asp	Asp	Asp	Asn	Ile	Gly	Gly	Ser	Tyr	Tyr	Asn	Lys
		35					40					45			
Ser	Leu	Asp	Leu	Cys	Ser	Arg	Pro	Trp	Ala	Asp	Thr	Phe	Tyr	Asp	Ala
	50					55					60				
Asp	Gly	Asn	Tyr	Cys	Tyr	Gln	Glu	Leu	Asn	Phe	Tyr	Leu	Asp	Arg	His

65		70		75		80									
Gly	Glu	Asp	Tyr	Ile	Arg	Val	Glu	Tyr	Pro	Asn	Gly	Arg	Tyr	Ser	Glu
				85					90					95	
Ser	Val	Tyr	Ser	Phe	Thr	Trp	Asn	Trp	Glu	Asp	Arg	Ser	Gln	Tyr	Ser
			100					105					110		
Leu	Arg	Met	Val	Tyr	Gly	Pro	Gly	Asp	Val	Ser	Tyr	Leu	Asp	Asp	Val
		115					120					125			
Trp	Ile	Arg	Gly	Asn	Val	Leu	Ser	Gly	Tyr	Leu	Asp	Gly	His	Asp	Asn
	130					135					140				
Tyr	Val	Asp	Phe	Thr	Gly	Val	Arg								
145					150										

<210> 10235  
 <211> 160  
 <212> PRT  
 <213> B.fragilis

<400> 10235															
Ile	Asp	His	Trp	Arg	Ser	Pro	Ser	Ser	Pro	Val	Val	Lys	Thr	Thr	Ala
1				5					10					15	
Met	Trp	Phe	Asn	Cys	Ala	Gly	Arg	His	Tyr	Arg	Arg	Trp	Arg	Cys	Pro
		20					25						30		
Ala	Gly	Asn	Arg	Val	Thr	Gly	Leu	Phe	Leu	Arg	Gln	Glu	Thr	Asp	Ser
		35				40						45			
Phe	Val	Leu	Gln	Thr	Asp	Ile	Gln	Arg	Leu	Gln	Gln	Val	Leu	Ile	Asn
	50					55					60				
Leu	Leu	Thr	Asn	Ala	Ala	Lys	Phe	Thr	Lys	Asn	Gly	Thr	Ile	Thr	Leu
65				70					75					80	
Gln	Phe	Glu	Val	Glu	Lys	Glu	Lys	Asn	Arg	Val	Leu	Phe	Ala	Val	Ala
			85					90					95		
Asp	Thr	Gly	Cys	Gly	Ile	Pro	Lys	Glu	Lys	Gln	Lys	Gln	Val	Phe	Glu
		100					105						110		
Arg	Phe	Glu	Lys	Leu	Asn	Glu	Tyr	Ala	Gln	Gly	Thr	Gly	Leu	Gly	Leu
	115					120						125			
Ser	Ile	Cys	Lys	Leu	Thr	Val	Asp	Lys	Trp	Gly	Gly	Asp	Ile	Trp	Ile
	130					135					140				
Asp	Pro	Asp	Tyr	Glu	Gly	Ala	Arg	Phe	Val	Val	Ser	His	Pro	Leu	
145					150				155					160	

<210> 10236  
 <211> 463  
 <212> PRT  
 <213> B.fragilis

<400> 10236															
Arg	Lys	Arg	Leu	Phe	Tyr	Cys	Ile	Leu	Val	Met	Asn	Asp	Lys	Tyr	Glu
1				5					10					15	
Glu	Arg	Leu	Gly	Thr	Asp	Arg	Met	Leu	Pro	Leu	Val	Phe	Arg	Met	Ala
		20					25						30		
Leu	Pro	Ala	Val	Ile	Ala	Gln	Ile	Val	Asn	Leu	Leu	Tyr	Asn	Ile	Val
		35				40						45			
Asp	Arg	Ile	Tyr	Ile	Gly	His	Ile	Pro	Gly	Ile	Gly	Thr	Gln	Ala	Leu
	50					55					60				
Ala	Gly	Ile	Gly	Val	Ala	Gly	Ser	Leu	Ile	Ile	Leu	Ile	Ser	Ala	Phe
65				70					75					80	
Ser	Ala	Ile	Val	Ala	Gly	Gly	Gly	Ala	Pro	Leu	Ala	Ala	Ile	Ala	Leu
			85					90					95		
Gly	Gln	Gly	Asn	Arg	Thr	His	Ala	Glu	Lys	Ile	Leu	Gly	Asn	Gly	Phe
			100					105					110		

Val Leu Leu Leu Phe Phe Thr Leu Leu Thr Ser Gly Leu Ser Tyr Leu  
 115 120 125  
 Phe Met Glu Pro Ile Leu Leu Phe Thr Gly Ala Ser Glu Gln Thr Leu  
 130 135 140  
 Gly Tyr Ala Thr Ala Tyr Leu Ser Ile Tyr Leu Ile Gly Thr Leu Phe  
 145 150 155 160  
 Val Glu Val Ser Val Gly Leu Asn Thr Phe Ile Asn Thr Gln Gly Arg  
 165 170 175  
 Pro Gly Ile Ala Met Leu Ser Ile Val Ile Gly Ala Leu Leu Asn Ile  
 180 185 190  
 Leu Leu Asp Pro Leu Phe Ile Phe Val Phe Asp Trp Gly Val Lys Gly  
 195 200 205  
 Ala Ala Leu Ala Thr Ile Ile Ser Gln Ala Cys Ser Ala Gly Trp Val  
 210 215 220  
 Leu Phe Phe Leu Thr Ser Arg Arg Ala Ser Leu Arg Leu Glu Pro Arg  
 225 230 235 240  
 Tyr Met Arg Leu Asp Arg Lys Val Val Gly Ala Ile Leu Ala Leu Gly  
 245 250 255  
 Ala Ser Pro Phe Ile Met Ala Ser Thr Glu Ser Leu Val Gly Phe Val  
 260 265 270  
 Leu Asn Gly Ser Leu Lys Thr Phe Gly Asp Ile Tyr Val Ser Ala Leu  
 275 280 285  
 Thr Ile Met Gln Ser Ala Met Leu Phe Val Ser Val Pro Leu Ala Gly  
 290 295 300  
 Phe Ala Leu Gly Phe Val Pro Ile Val Ser Tyr Asn Tyr Gly His Gly  
 305 310 315 320  
 Asn Arg Glu Arg Val Lys Glu Cys Phe Lys Ile Val Met Thr Phe Met  
 325 330 335  
 Phe Leu Phe Asn Leu Val Leu Ile Leu Leu Met Ile Leu Phe Pro Ser  
 340 345 350  
 Val Ile Ala Ser Ala Phe Thr Ser Asp Glu Lys Leu Ile Glu Thr Val  
 355 360 365  
 Val Gln Val Met Pro Val Phe Leu Ala Gly Met Thr Ile Phe Gly Leu  
 370 375 380  
 Gln Arg Ala Cys Gln Asn Met Phe Val Ala Leu Gly Gln Ala Lys Val  
 385 390 395 400  
 Ser Ile Phe Ile Ala Leu Leu Arg Lys Val Ile Leu Leu Ile Pro Leu  
 405 410 415  
 Ala Leu Met Leu Pro Tyr Leu Met Gly Val Met Gly Val Tyr Ala Ala  
 420 425 430  
 Glu Ala Ile Ser Asp Ala Ala Ala Ile Cys Cys Thr Val Ile Phe  
 435 440 445  
 Ala Val Gln Phe Pro Arg Ile Met Asn Lys Leu Thr Val Arg Ser  
 450 455 460

&lt;210&gt; 10237

&lt;211&gt; 583

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10237

Asn Met Ile Met Met Lys Arg Leu Ile Cys Met Tyr Ala Phe Leu Leu  
 1 5 10 15  
 Cys Leu Val Cys Val Leu Pro Ala Gln Glu Arg Glu Val Lys Leu Lys  
 20 25 30  
 Ile Val Gln Thr Ser Asp Val His Gly Asn Tyr Phe Pro Tyr Asn Phe  
 35 40 45  
 Ile Thr Gln Lys Glu Trp Gly Gly Ser Leu Ala Arg Val Tyr Ala Leu  
 50 55 60

Val	Gln	Lys	Asn	Arg	Glu	Val	Tyr	Lys	Gly	Asn	Leu	Ile	Leu	Leu	Asp
65					70					75					80
Asn	Gly	Asp	Ile	Leu	Gln	Gly	Gln	Pro	Ser	Ala	Tyr	Tyr	Tyr	Asn	Tyr
			85						90					95	
Ile	Asp	Thr	Val	Ala	Pro	His	Val	Cys	Ala	Glu	Met	Met	Asn	Phe	Met
			100					105					110		
Gly	Tyr	Asp	Ala	Gly	Asn	Met	Gly	Asn	His	Asp	Val	Glu	Thr	Gly	Arg
			115				120					125			
Ala	Val	Phe	Asp	Arg	Trp	Ile	Gly	Glu	Cys	Asn	Phe	Pro	Val	Leu	Gly
			130				135				140				
Ala	Asn	Ile	Val	Glu	Thr	Ala	Thr	Gly	Glu	Thr	His	Leu	Pro	Pro	Tyr
145							150			155					160
Arg	Val	Leu	Glu	Arg	Asp	Gly	Val	Lys	Ile	Val	Val	Leu	Gly	Met	Ile
				165					170					175	
Thr	Pro	Ala	Ile	Pro	Ala	Trp	Leu	Ser	Glu	Asn	Leu	Trp	Gln	Gly	Leu
			180					185					190		
Arg	Phe	Asp	Asp	Met	Glu	Glu	Thr	Ala	Arg	Lys	Trp	Met	Lys	Val	Ile
		195					200					205			
Arg	Glu	Lys	Glu	Asn	Pro	Asp	Leu	Val	Ile	Gly	Leu	Phe	His	Ala	Gly
			210			215					220				
Gln	Asp	Ala	Phe	Val	Met	Ser	Gly	Arg	Tyr	Asn	Glu	Asn	Ala	Ser	Leu
225					230					235					240
Asn	Val	Ala	Lys	Asn	Val	Pro	Gly	Phe	Asp	Met	Val	Leu	Met	Gly	His
				245					250					255	
Asp	His	Ala	Arg	Glu	Cys	Lys	Lys	Val	Val	Asn	Val	Ala	Gly	Asp	Ser
			260					265						270	
Val	Leu	Val	Ile	Asp	Pro	Ala	Ser	Asn	Gly	Ile	Val	Val	Ser	Asp	Ile
			275				280					285			
Asp	Val	Thr	Leu	Lys	Leu	Lys	Asp	Gly	Lys	Val	Val	Ser	Lys	Gln	Ile
		290				295					300				
Asp	Gly	Val	Leu	Thr	Asp	Thr	Lys	Glu	Tyr	Gly	Val	Ser	Glu	Ser	Phe
305					310					315					320
Met	Arg	His	Phe	Ala	Leu	Gln	Tyr	Gly	Ala	Val	Glu	Lys	Phe	Val	Ser
				325					330					335	
Lys	Lys	Ile	Gly	Val	Phe	Thr	Glu	Asp	Leu	Ser	Thr	Arg	Pro	Ala	Tyr
			340					345					350		
Phe	Gly	Ser	Ser	Ala	Phe	Ile	Asp	Phe	Ile	His	Ser	Leu	Gln	Leu	Asp
		355					360					365			
Ile	Ser	Gly	Ala	Asp	Ile	Ser	Phe	Ala	Ala	Pro	Leu	Ser	Phe	Asp	Ala
		370				375					380				
Glu	Ile	Lys	Lys	Gly	Asp	Ile	Arg	Val	Ser	Asp	Met	Phe	Asn	Leu	Tyr
385					390					395					400
Lys	Tyr	Glu	Asn	Met	Leu	Tyr	Val	Met	Lys	Leu	Ser	Gly	Lys	Glu	Ile
				405					410					415	
Lys	Asp	Phe	Leu	Glu	Glu	Ser	Tyr	Tyr	Met	Trp	Thr	Asn	Arg	Met	Lys
			420					425					430		
Ser	Pro	Glu	Asp	His	Leu	Leu	Trp	Leu	Lys	Glu	Lys	Arg	Arg	Ala	Gly
			435				440					445			
Ala	Glu	Asp	Arg	Ala	Ser	Phe	Gln	Asn	Phe	Ser	Phe	Asn	Phe	Asp	Ser
			450			455					460				
Ala	Ala	Gly	Ile	Ile	Tyr	Thr	Val	Asp	Val	Thr	Arg	Pro	Lys	Gly	Glu
465					470					475					480
Lys	Val	Thr	Ile	Val	Ser	Met	Ala	Asp	Gly	Ser	Pro	Phe	Arg	Met	Asp
				485					490					495	
His	Ile	Tyr	Lys	Val	Ala	Leu	Asn	Ser	Tyr	Arg	Gly	Asn	Gly	Gly	Gly
			500					505					510		
Glu	Leu	Leu	Thr	Lys	Gly	Ser	Gly	Ile	Pro	Gln	Glu	Lys	Leu	Lys	Glu
			515				520					525			
Arg	Ile	Ile	Phe	Ser	Thr	Asp	Lys	Asp	Leu	Arg	Phe	Tyr	Leu	Met	Gln

6067

530		535		540											
Tyr	Ile	Glu	Lys	Lys	Gly	Thr	Leu	Asp	Pro	Arg	Ala	Leu	Asn	Gln	Trp
545					550					555					560
Lys	Phe	Val	Pro	Glu	Glu	Trp	Val	Lys	Pro	Ala	Ala	Gln	Arg	Asp	Tyr
				565					570					575	
Glu	Tyr	Leu	Phe	Gly	Gly	Lys									
				580											

&lt;210&gt; 10238

&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (5)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 10238

Val	Gly	His	Ile	Xaa	Lys	Ile	Leu	Leu	Ser	Phe	Leu	Leu	Leu	Thr	Leu
1				5					10					15	
Phe	Val	Thr	Tyr	Gln	Val	Ser	Ile	Thr	Met	Phe	Thr	His	Val	His	Tyr
			20					25					30		
Val	Asn	Gly	Val	Met	Ile	Ala	His	Ser	His	Pro	Tyr	Lys	Gly	Thr	His
		35					40					45			
Ser	His	Thr	Ala	Ser	Asn	Ile	Val	Ile	Ala	His	Phe	Ala	Ala	Phe	
	50				55					60					
His	Ser	Leu	Glu	Val	Asp	Val	His	Tyr	Asp	Phe	Thr	Pro	Glu	Arg	Pro
65					70				75					80	
Ile	Leu	Phe	Thr	Val	Glu	Ile	Pro	Glu	Ser	Ile	Pro	Val	Thr	Ala	Gly
			85					90					95		
Thr	His	Leu	Gln	Val	Ile	Ser	Leu	Arg	Ala	Pro	Pro	Ala	Glu	Leu	Ala
			100					105					110		

&lt;210&gt; 10239

&lt;211&gt; 766

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10239

Gln	Lys	Arg	Met	Lys	His	Tyr	Ile	Val	Met	Leu	Val	Leu	Ala	Cys	Val
1				5					10					15	
Ser	Met	Ser	Ser	Tyr	Ala	Val	Asn	Pro	Ile	Lys	Glu	Gly	Asn	Met	Ile
			20					25					30		
Ala	Gly	His	Val	Ile	Val	Lys	Gly	Thr	Glu	Glu	Gly	Ile	Pro	Phe	Ala
		35					40					45			
Thr	Val	Met	Ile	Leu	Gly	Thr	Asn	Arg	Gly	Ala	Val	Ser	Asn	Glu	Glu
	50				55					60					
Gly	Gln	Phe	Glu	Phe	Arg	Lys	Leu	Ala	Ala	Gly	Lys	Tyr	Thr	Leu	Arg
65					70				75					80	
Val	Gln	Val	Met	Gly	Tyr	Lys	Thr	Gln	Glu	Lys	Thr	Ile	Thr	Val	Ser
			85					90					95		
Ala	Glu	Ala	Thr	Ser	Val	Val	His	Phe	Gln	Met	Glu	Glu	Val	Ser	Phe
			100					105					110		
Thr	Thr	Asp	Glu	Val	Val	Val	Ser	Ala	Asn	Arg	Asn	Glu	Val	Ser	Arg
		115					120					125			
Lys	Ala	Ala	Pro	Val	Val	Val	Asn	Val	Met	Ser	Ala	Lys	Leu	Phe	Glu
	130						135				140				
Thr	Val	Asn	Ser	Thr	Asp	Leu	Ala	Lys	Ser	Leu	Asn	Phe	Gln	Ser	Gly



145		150		155		160
Leu Arg Val Glu Asn	Asn Cys Gln Asn Cys Gly Phe Pro Gln Val Arg					
	165		170			175
Ile Asn Gly Leu Glu Gly Pro Tyr Ser Gln Ile Leu Ile Asn Ser Arg						
	180		185			190
Pro Ile Ile Ser Ala Leu Ser Gly Val Tyr Gly Leu Glu Gln Ile Pro						
	195		200			205
Val Asn Met Ile Glu Arg Val Glu Val Val Arg Gly Gly Gly Ser Ala						
	210		215			220
Leu Phe Gly Ala Asn Ala Val Gly Gly Thr Ile Asn Ile Ile Thr Lys						
225		230		235		240
Asp Pro Ile Asn Asn Ser Phe Gln Val Ala Ser Thr Met Ser Asn Met						
	245		250			255
Asn Gly Lys Ser Trp Glu Gln Tyr Met Gly Gly Asn Val Ser Leu Val						
	260		265			270
Ala Lys Asp Asn Ser Tyr Gly Ile Ala Leu Tyr Glu Thr Tyr Arg Asn						
	275		280			285
Arg Asn Pro Tyr Asp Ala Asp Gly Asp Gly Phe Ser Glu Leu Gly Lys						
	290		295			300
Leu Asn Met Asn Thr Phe Gly Met Arg Ala Tyr Tyr Arg Pro Asn Tyr						
305		310		315		320
Phe Ser Arg Ile Asn Val Glu Tyr His Thr Thr Asn Glu Phe Arg Arg						
	325		330			335
Gly Gly Asn Lys Phe Asn Leu Gln Pro His Glu Ala Asp Ile Thr Glu						
	340		345			350
Gln Thr Lys His Ile Ile Asn Ser Gly Gly Val Ser Tyr Asp Arg Tyr						
	355		360			365
Trp Gly Glu Lys His Lys Met Ser Val Tyr Gly Ser Ile Gln His Thr						
	370		375			380
Asp Arg Asn Ser Tyr Tyr Gly Ala Gln Lys Asp Met Asn Ala Tyr Gly						
385		390		395		400
Lys Thr Asn Asp Leu Thr Trp Val Val Gly Gly Met Tyr Val Gly Asn						
	405		410			415
Met Asp Arg Cys Leu Phe Ala Pro Ala Thr Phe Thr Gly Gly Val Glu						
	420		425			430
Tyr Gln Ser Asn Ser Leu His Asp Val Met Thr Gly Tyr His Arg Asp						
	435		440			445
Met Gln Gln Asp Val Arg Ile Ala Gly Gly Phe Val Gln Asn Glu Trp						
	450		455			460
Arg Leu Asn Arg Trp Thr Met Leu Val Gly Ala Arg Leu Asp Lys His						
465		470		475		480
Asn Leu Ile Asp His Pro Ile Phe Ser Pro Arg Val Asn Phe Leu Tyr						
	485		490			495
Lys Pro Ser Asp Asn Leu Gln Ala Arg Leu Thr Tyr Ser Thr Gly Phe						
	500		505			510
Arg Ala Pro Gln Ala Tyr Asp Glu Asp Leu His Val Thr Ala Val Gly						
	515		520			525
Gly Glu Gly Val Gln Ile Arg Leu Ala Asp Gly Leu Arg Glu Glu Arg						
	530		535			540
Ser Asn Ser Phe Ser Gly Ser Val Asp Trp Ser Phe Pro Met Gly His						
545		550		555		560
Trp Gln Ser Asn Ile Leu Leu Glu Gly Phe Tyr Thr Asp Leu His His						
	565		570			575
Val Phe Val Leu Glu Asp Ile Gly Glu Asp Gln Asn Gly Asp Lys Ile						
	580		585			590
Lys Glu Arg Arg Asn Gly Ser Gly Ala Lys Val Tyr Gly Val Asn Leu						
	595		600			605
Asp Ala Lys Val Ala His Gly Arg Glu Ala Gln Leu Gln Leu Gly Phe						
	610		615			620

Thr Val Gln Arg Ser Arg Tyr Asn Arg Ala Glu Val Trp Thr Ser Glu  
 625 630 635 640  
 Gly Glu Glu Glu Gln Thr Thr Lys Arg Met Pro Arg Thr Pro Asp Tyr  
 645 650 655  
 Tyr Gly Tyr Phe Thr Phe Thr Ser Ala Pro Leu Lys Asn Phe Asp Phe  
 660 665 670  
 Ser Leu Ser Gly Thr Tyr Thr Gly Lys Met Ile Val Pro His Met Ala  
 675 680 685  
 Gly Tyr Ile Glu Lys Ser Arg Met Glu His Thr Pro Gln Phe Met Asp  
 690 695 700  
 Leu Asn Leu Lys Leu Asn Tyr Thr Phe Val Leu Lys Asp His Ile Lys  
 705 710 715 720  
 Met Gln Val Asn Gly Gly Val Gln Asn Ile Phe Asn Ser Phe Gln Lys  
 725 730 735  
 Asp Leu Asp Lys Gly Glu Phe Arg Asp Ala Gly Tyr Phe Tyr Gly Pro  
 740 745 750  
 Thr Gln Pro Arg Thr Tyr Phe Val Gly Ile Lys Ile Met Asn  
 755 760 765

<210> 10240  
 <211> 224  
 <212> PRT  
 <213> B.fragilis

<400> 10240  
 Asn Glu Ser Phe Tyr Phe Glu Lys Leu Ile Tyr Ile Asn Arg Phe Ser  
 1 5 10 15  
 Tyr Phe Cys Pro Ala Ile Tyr Asn Asn Leu Ser Ile Tyr Asn Ile Met  
 20 25 30  
 Glu Asn Leu Lys Glu Thr Val Asp Ile Val Val Asn Ser Arg Tyr Pro  
 35 40 45  
 Glu Met Asn Arg Glu Gly Arg Glu Leu Leu Ala Gln Val Leu Ile Arg  
 50 55 60  
 Lys Glu Leu Glu Lys Gly Glu Met Leu Leu Asn Glu Gly Gln Ile Ser  
 65 70 75 80  
 Arg His Met Val Phe Val Gly Lys Gly Met Leu Arg Gln Phe Tyr Tyr  
 85 90 95  
 Lys Asn Gly Lys Asp Val Thr Glu His Phe Ser Tyr Glu Gly Cys Ile  
 100 105 110  
 Leu Met Cys Ile Glu Ser Leu Leu Lys Gln Glu Pro Thr His Leu Met  
 115 120 125  
 Ala Glu Ala Leu Glu Pro Ala Val Val Tyr Met Leu Pro Tyr Asp Val  
 130 135 140  
 Leu Gln Lys Leu Leu Glu Gln Ser Lys Glu Ile Asn Ala Phe Tyr Arg  
 145 150 155 160  
 Lys Val Leu Glu Tyr Ser Leu Ile Val Ser Gln Ile Lys Ala Asp Ser  
 165 170 175  
 Trp Arg Phe Glu Thr Ala Arg Glu Arg Tyr Asn Leu Leu Leu His His  
 180 185 190  
 His Pro Glu Ile Ile Lys Arg Ala Pro Leu Ser His Ile Ala Ser Tyr  
 195 200 205  
 Leu Leu Met Thr Pro Glu Thr Leu Ser Arg Val Arg Ser Gly Val Leu  
 210 215 220

<210> 10241  
 <211> 653  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 10241

Arg	Arg	Glu	Pro	Leu	Asp	Gln	Val	Thr	Pro	Glu	Ser	Tyr	Phe	Gln	Asn
1				5					10					15	
Ala	Asp	His	Leu	Ala	Ala	Tyr	Ser	Ile	Ser	Lys	Tyr	Gln	Asn	Leu	Phe
			20					25					30		
Ser	Thr	His	Ser	Gly	Phe	Ser	Ala	Gly	Thr	Val	Asn	Asn	Asp	Gly	Ala
		35					40					45			
Thr	Asp	Asn	Met	Val	Ser	Gly	Gly	Ser	Ser	Gly	Ser	Gly	Leu	Gln	Asn
	50					55					60				
Tyr	Tyr	Thr	Lys	Asp	Val	Trp	Lys	Thr	Glu	Ala	Asn	Asp	Asn	Trp	
65					70				75					80	
Asp	Phe	Ser	Phe	Phe	Arg	Tyr	Cys	Asn	Tyr	Phe	Phe	Glu	Lys	Val	Leu
			85					90					95		
Pro	Lys	Tyr	Glu	Ala	Gly	Glu	Ile	Ser	Gly	Asn	Ala	Asp	Asp	Val	Lys
			100					105					110		
His	Tyr	Ile	Gly	Glu	Met	Tyr	Phe	Ile	Arg	Ala	Trp	Lys	Tyr	Phe	Gln
		115					120					125			
Lys	Leu	Arg	Met	Tyr	Gly	Asp	Tyr	Pro	Ile	Ile	Thr	Glu	Val	Leu	Pro
	130					135					140				
Asp	Asn	Ala	Glu	Ile	Leu	Ile	Glu	Lys	Gly	Val	Arg	Gln	Pro	Arg	Asn
145					150				155					160	
Lys	Val	Ala	Arg	Phe	Ile	Leu	Glu	Asp	Leu	Asp	Lys	Ala	Ala	Glu	Tyr
			165					170						175	
Met	His	Asp	His	Gly	Phe	Ala	Gly	Asn	Asn	Arg	Leu	Asn	Lys	Gln	Cys
		180						185					190		
Ala	Leu	Leu	Ile	Lys	Ser	Arg	Val	Ala	Leu	Tyr	Glu	Ala	Thr	Phe	Glu
		195					200					205			
Lys	Tyr	His	Gln	Gly	Thr	Gly	Arg	Val	Pro	Gly	Asp	Ala	Asn	Trp	Pro
	210					215					220				
Gly	Lys	Arg	Val	His	Pro	Asp	Tyr	Lys	Tyr	Asp	Ala	Asn	Thr	Glu	Ile
225					230					235				240	
Asn	Phe	Phe	Leu	Asp	Gln	Ala	Met	Ser	Ala	Ala	Glu	Gln	Val	Ala	Asp
			245					250						255	
Val	Ile	Lys	Leu	Thr	Pro	Asn	Ser	Gly	Val	Phe	Asn	Pro	Ala	Asn	Asp
		260						265				270			
Asn	Asp	Ile	Ser	Gly	Trp	Asn	Asp	Tyr	Phe	Asp	Met	Phe	Ser	Ala	Glu
	275					280					285				
Asp	Met	Ser	Gly	Phe	Glu	Glu	Val	Leu	Phe	Trp	Arg	Asp	Tyr	Tyr	Ser
	290					295					300				
Gly	Asp	Phe	Thr	Ile	Ala	His	Gly	Ala	Thr	Ala	Tyr	Val	Ala	Ser	Gly
305					310					315				320	
Gly	Asn	Asn	Gly	Met	Leu	His	Asn	Tyr	Val	Gln	Ser	Phe	Leu	Met	Lys
			325					330					335		
Asp	Gly	Met	Pro	Trp	Tyr	Ala	Ala	Thr	Ala	Ala	Tyr	Pro	Phe	Lys	Gly
		340						345				350			
Asp	Glu	Arg	Val	Met	Asp	Glu	Lys	Ala	Asn	Arg	Asp	Glu	Arg	Leu	Gln
		355					360					365			
Leu	Phe	Leu	Phe	Gly	Glu	Glu	Asp	Met	Ile	Pro	Ala	Val	Ser	Asn	Ala
	370					375					380				
Ala	Thr	Asn	Ala	Met	Lys	Thr	Tyr	Gln	Asp	Ala	Asn	Tyr	Pro	Asn	Ile
385					390					395				400	
Ile	Val	Ala	Glu	Ser	Glu	Ile	Lys	Asp	Leu	Thr	Gly	Tyr	Arg	Ile	Arg
			405						410				415		
Lys	Cys	Leu	Ser	Tyr	Asp	Gln	Lys	Gln	Tyr	Val	Ser	Gly	Gln	Ala	Gln
		420						425				430			
Ser	Thr	Thr	Gly	Cys	Val	Ile	Phe	Arg	Ala	Val	Glu	Ala	Tyr	Leu	Asn
		435					440					445			
Tyr	Met	Glu	Ala	Ala	Cys	Met	Lys	Asn	Asn	Gly	Asn	Val	Thr	Gly	Lys
	450					455					460				

Ala Ala Glu Tyr Trp Arg Ala Val Arg Ile Arg Ala Gly Val Asp Pro  
 465 470 475 480  
 Asp Phe Thr Lys Thr Ile Ala Ala Thr Asp Leu Ser Lys Glu Asn Asp  
 485 490 495  
 Leu Ala Lys Tyr Lys Gly Glu Asn Glu Met Ile Asp Val Thr Leu Phe  
 500 505 510  
 Asn Ile Arg Arg Glu Arg Arg Cys Glu Phe Ile Gly Glu Gly Met Arg  
 515 520 525  
 Met Asp Asp Leu Ile Arg Trp Arg Ser Leu Tyr Arg Leu Leu Val Glu  
 530 535 540  
 Arg Phe Ile Pro Glu Gly Phe Asn Phe Trp Gly Ser Asp Ala Tyr Lys  
 545 550 555 560  
 Arg Tyr Glu Gly Glu Asp Ala Lys Phe Glu Tyr Ile Glu Gly Pro Asp  
 565 570 575  
 Asn Ala Met Ala Asn Val Ser Ser Arg Lys Leu Ser Asn Tyr Leu Arg  
 580 585 590  
 Pro Tyr Ser Val Val Gln Lys Asn Asn Glu Ile Tyr Asp Gly Tyr Thr  
 595 600 605  
 Trp Ala Lys Ala His Tyr Leu Tyr Pro Val Pro Ile Arg Gln Ile Glu  
 610 615 620  
 Leu Leu Ser Pro Ser Gly Glu Ile Ala Ser Ser Val Ile Tyr Gln Asn  
 625 630 635 640  
 Pro Tyr Trp Pro Glu Glu Arg Asn Thr Ala Ala Ile Glu  
 645 650

&lt;210&gt; 10242

&lt;211&gt; 840

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10242

Cys Met Lys Glu Lys Thr Asn Leu Phe Pro Ser Leu Ile Arg Leu Arg  
 1 5 10 15  
 Glu Thr Ser Arg Leu Lys Met Ala Ile Ala Ala Ser Ile Met Leu Trp  
 20 25 30  
 Cys Ala Thr Pro Gln Gln Ala Thr Ala Asp Thr Asn Glu Glu His Ala  
 35 40 45  
 Ile Glu Ala Val Gln Gln Ala Lys Val Lys Val Lys Gly Thr Val Val  
 50 55 60  
 Asp Glu Thr Gly Glu Pro Met Ile Gly Val Ala Val Lys Val Leu Ala  
 65 70 75 80  
 Asn Asn Thr Gly Thr Ile Thr Asp Leu Glu Gly Lys Phe Ser Val Glu  
 85 90 95  
 Ala Pro Leu Gly Gly Ala Ile Gln Ile Ser Phe Ile Gly Tyr Lys Thr  
 100 105 110  
 Val Thr Val Lys Ala Ser Ser Glu Pro Ile Ser Val Thr Leu Lys Glu  
 115 120 125  
 Asp Ser Gln Gln Leu Asp Glu Val Val Val Val Gly Tyr Gly Ser Gln  
 130 135 140  
 Lys Lys Val Asn Val Thr Gly Ser Val Ser Met Val Asp Ser Lys Val  
 145 150 155 160  
 Ile Glu Ser Arg Pro Val Gln Asn Val Ser Gln Ala Leu Gln Gly Val  
 165 170 175  
 Val Pro Gly Leu Asn Met Ser Val Gly Asn Ser Gly Gly Ala Leu Asp  
 180 185 190  
 Ser Ser Leu Ser Ile Asn Ile Arg Gly Ala Gly Thr Ile Gly Glu Gly  
 195 200 205  
 Ser Ser Gly Ser Pro Leu Val Leu Ile Asp Gly Ile Glu Gly Asp Met  
 210 215 220

Asn	Thr	Val	Asn	Pro	Asn	Asp	Ile	Glu	Asn	Ile	Ser	Val	Leu	Lys	Asp
225					230				235						240
Ala	Ala	Ser	Ser	Ser	Ile	Tyr	Gly	Ala	Arg	Ala	Ser	Phe	Gly	Val	Ile
				245				250						255	
Met	Ile	Thr	Thr	Lys	Ser	Gly	Lys	Ser	Gly	Lys	Thr	Arg	Val	Asn	Tyr
			260					265					270		
Ser	Gly	Asn	Val	Arg	Phe	Ser	Asp	Ala	Ile	Gln	Ile	Pro	Glu	Met	Val
		275					280					285			
Asp	Ser	Tyr	Thr	Phe	Ala	Gln	Tyr	Phe	Asn	Arg	Ala	Asn	Thr	Asn	Asp
	290					295					300				
Gly	Gly	Gly	Leu	Val	Phe	Asp	Glu	Ala	Ala	Leu	Glu	Arg	Ile	Lys	Asn
305					310					315					320
Tyr	Gln	Thr	Gly	Lys	Tyr	Thr	Asp	Pro	Asn	Thr	Pro	Glu	Tyr	Tyr	Gly
				325					330					335	
Ala	Lys	Ala	Gly	Asn	Asp	Gly	Lys	Trp	Gln	Asn	Tyr	Thr	Gly	Ser	Phe
			340					345					350		
Ala	Asn	Thr	Asp	Trp	Phe	Lys	Glu	Phe	Tyr	Lys	Asn	Trp	Val	Pro	Ser
		355					360					365			
Thr	Glu	His	Asn	Leu	Asn	Ile	Ser	Gly	Gly	Thr	Asp	Lys	Leu	Thr	Tyr
	370					375					380				
Met	Ile	Ser	Gly	Ser	Phe	Leu	Asp	Gln	Lys	Gly	Leu	Leu	Arg	His	Gly
385					390					395					400
Glu	Asp	Gln	Phe	Asn	Arg	Tyr	Thr	Met	Asn	Ala	Lys	Ile	Ser	Ala	Lys
				405					410					415	
Leu	Thr	Asp	Trp	Val	Thr	Leu	Asn	Tyr	Thr	Ser	Lys	Trp	Thr	Arg	Glu
		420						425					430		
Asp	Tyr	Asp	Arg	Pro	Thr	Tyr	Met	Thr	Gly	Leu	Phe	Phe	His	Asn	Ile
		435					440					445			
Ala	Arg	Arg	Trp	Pro	Thr	Cys	Pro	Val	Arg	Asp	Pro	Asn	Gly	His	Tyr
	450					455				460					
Gln	Gln	Lys	Met	Glu	Ile	Ile	Glu	Met	Glu	Asp	Gly	Gly	Lys	Gln	Thr
465					470					475					480
Ser	Gln	Lys	Asn	Trp	Tyr	Thr	Gln	Gln	Leu	Gln	Ala	Ile	Phe	Glu	Pro
				485					490					495	
Ile	Lys	Asp	Trp	Arg	Ile	Val	Ala	Glu	Gly	Ser	Met	Arg	Thr	Tyr	Thr
			500					505				510			
Arg	Lys	Gln	Ser	Trp	Ala	Val	Leu	Pro	Ile	Tyr	Ala	Tyr	Asp	Ala	Asp
		515					520					525			
Asn	Gln	Pro	Tyr	Leu	Leu	Gly	Trp	Gly	Asp	Asn	Ala	Ala	Gly	Tyr	Ser
	530					535					540				
Glu	Val	Gln	Asp	Ser	Arg	Glu	Ser	Glu	Asp	Tyr	Phe	Ser	Thr	Asn	Ile
545					550				555						560
Tyr	Thr	Asp	Phe	Ala	Lys	Thr	Phe	Gly	Asp	His	Asn	Phe	Lys	Ile	Met
			565						570					575	
Val	Gly	Phe	Asn	Gly	Glu	Leu	Tyr	Arg	Pro	Ser	Gly	Leu	Thr	Gly	Phe
			580					585					590		
Gly	Thr	Asp	Leu	Ile	Ser	Pro	Glu	Val	Pro	Ser	Leu	Gly	Leu	Thr	Gln
		595					600					605			
Asp	Asn	Lys	Lys	Ala	Ser	Ser	Trp	Ala	Ser	Glu	Lys	Ala	Ile	Ala	Gly
	610					615					620				
Phe	Phe	Gly	Arg	Leu	Asn	Tyr	Asn	Tyr	Lys	Glu	Arg	Tyr	Met	Leu	Glu
625					630					635					640
Ala	Asn	Leu	Arg	Tyr	Asp	Gly	Ser	Ser	Arg	Phe	Ile	Gly	Asp	Lys	Arg
				645					650					655	
Trp	Gly	Leu	Phe	Pro	Ser	Phe	Ser	Ala	Gly	Trp	Asn	Ile	Ser	Arg	Glu
			660					665					670		
Ala	Phe	Phe	Glu	Pro	Leu	Thr	Gln	Val	Val	Gly	Thr	Leu	Lys	Leu	Arg
		675					680					685			
Gly	Ser	Trp	Gly	Gln	Leu	Gly	Asn	Asn	Asn	Thr	Ser	Glu	Thr	Asn	Ala

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690 695 700  
 Trp Tyr Pro Phe Tyr Gln Asn Met Pro Thr Gly Ser Ala Ser Ser Gly  
 705 710 715 720  
 Trp Leu Ile Asn Gly Lys Lys Gln Asn Val Ala Gly Leu Pro Gly Ile  
 725 730 735  
 Val Ser Ser Leu Met Thr Trp Glu Thr Ile Glu Ser Trp Asn Val Gly  
 740 745 750  
 Ile Asp Trp Gly Leu Phe Asp Asn Arg Leu Thr Gly Ser Phe Asp Tyr  
 755 760 765  
 Tyr Asn Arg Tyr Thr Tyr Asp Met Ile Gly Pro Ala Pro Thr Leu Pro  
 770 775 780  
 Ser Val Leu Gly Ala Ser Ala Pro Gln Ile Asn Asn Cys Asp Met Lys  
 785 790 795 800  
 Ser Tyr Gly Trp Glu Leu Glu Leu Ser Trp Arg Asp Arg Ile Gln Gln  
 805 810 815  
 Phe Asn Tyr Gly Val Arg Leu Val Met Ser Asp Asn Met Gln Lys Ile  
 820 825 830  
 Leu Glu Tyr Pro Asn Lys Thr Ser  
 835 840

&lt;210&gt; 10243

&lt;211&gt; 62

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10243

Phe Arg Thr Ile Ser Thr Ser Gln Thr Arg Gln Lys Arg Tyr Tyr Lys  
 1 5 10 15  
 Ile Thr Leu Ile Arg Gln Ala Tyr Gly Val Glu Thr Lys Lys Thr Leu  
 20 25 30  
 Lys His His Phe Arg Gln Asp Lys Ser Leu Pro Glu Lys Ser Gln Lys  
 35 40 45  
 Thr Asn Tyr Ser Asn Leu Cys Leu Thr Glu Gln Phe Ser Val  
 50 55 60

&lt;210&gt; 10244

&lt;211&gt; 191

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10244

Ala Thr Val Asp Thr Ser Ser Pro Val Val Lys Thr Cys Leu Leu Ser  
 1 5 10 15  
 Pro His Arg Asn Ser Pro Met Asn Arg Val Asp Ile Glu Glu Tyr Leu  
 20 25 30  
 Cys Arg Val Phe His Leu Gln Arg Val Leu Trp Leu Asp His Gly Tyr  
 35 40 45  
 Leu Ser Gly Asp Asp Thr Asp Ser His Ile Asp Thr Leu Ala Arg Phe  
 50 55 60  
 Cys Ser Pro Asp Thr Ile Ala Tyr Val Lys Cys Thr Asp Ser Glu Asp  
 65 70 75 80  
 Glu His Tyr Glu Ala Leu Cys Lys Met Glu Glu Gln Leu Lys Thr Phe  
 85 90 95  
 Arg Thr Thr Ser Gly Ala Pro Tyr Arg Leu Leu Ala Leu Pro Met Ala  
 100 105 110  
 Asp Lys Ile Glu Val Glu Gly Glu Arg Leu Pro Ala Thr Tyr Ala Asn  
 115 120 125  
 Phe Leu Ile Met Asn Asp Val Val Leu Tyr Pro Thr Tyr Asn Gln Pro  
 130 135 140

Glu	Asn	Asp	Lys	Leu	Ala	Lys	Glu	Val	Leu	Cys	Glu	Ala	Phe	Pro	Thr
145					150					155					160
Tyr	Glu	Val	Val	Gly	Ile	Asp	Cys	Arg	Ala	Leu	Ile	Lys	Gln	His	Gly
				165						170					175
Ser	Leu	His	Cys	Val	Thr	Met	Gln	Tyr	Pro	Thr	Gly	Val	Ile	Lys	
			180					185					190		

&lt;210&gt; 10245

&lt;211&gt; 202

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10245

Lys	Ala	Arg	Leu	Leu	Ile	Asp	Pro	Gly	Glu	Asp	Ser	Tyr	Arg	Leu	Val
1			5						10					15	
Asp	Leu	Pro	Asn	Gly	Glu	Glu	Leu	Arg	Ala	Gln	Ala	Gln	Lys	Glu	Phe
			20					25					30		
Asn	Leu	Thr	Asp	Ser	Glu	Thr	Lys	Ala	Leu	Ala	Asn	Tyr	Lys	Leu	Tyr
		35					40					45			
Gly	Asn	Leu	Asp	Lys	Gly	Val	Val	Arg	Gly	Phe	Glu	Val	Asn	Ala	Ala
	50					55					60				
Thr	Asn	Leu	Gly	Ala	Gly	Phe	Ser	Leu	Asn	Gly	Asn	Tyr	Ala	Tyr	Ala
65					70					75					80
Tyr	Ala	Arg	Gly	Lys	Ser	Val	Asp	Gly	Val	Trp	Gly	Asn	Ile	Asp	Arg
				85					90					95	
Ser	Val	Arg	His	Thr	Gly	Thr	Val	Ala	Gly	Asn	Tyr	Thr	His	Ala	Trp
			100					105					110		
Asn	Asp	Tyr	Met	Leu	Asn	Val	Asn	Ile	Asn	Gly	Arg	Phe	Gln	Ser	Lys
		115					120					125			
Arg	Phe	His	Pro	Gly	His	Ser	Tyr	Gly	Asp	Ala	Pro	Gly	Tyr	Gly	Val
	130						135				140				
Trp	Asn	Leu	Asn	Val	Lys	His	Ser	Leu	Thr	Gly	Phe	Gln	His	Leu	Gly
145					150					155					160
Leu	Asp	Phe	Gly	Met	Gly	Leu	Asp	Asn	Ile	Phe	Asn	Lys	Arg	Asp	Thr
				165					170					175	
Arg	Pro	Asn	Gly	Val	Asn	Tyr	Ala	Leu	Leu	Ser	Pro	Gly	Arg	Met	Ala
			180					185					190		
Tyr	Val	Ser	Leu	Thr	Leu	Arg	Phe	Lys	Lys						
		195						200							

&lt;210&gt; 10246

&lt;211&gt; 1095

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10246

Cys	Ser	Arg	Phe	Cys	His	Tyr	Lys	Phe	Leu	Leu	Tyr	Met	Lys	Ala	Tyr
1				5					10					15	
Arg	Leu	Lys	Ile	Thr	Cys	Phe	Ile	Leu	Leu	Leu	Leu	Pro	Val	Leu	Thr
			20					25					30		
Cys	Cys	Thr	Asp	Glu	Glu	Leu	Leu	Arg	Gly	Ser	Gly	Val	Pro	Glu	Gly
		35					40					45			
Val	Pro	Thr	Thr	Val	Asp	Ile	Ser	Val	Gly	Thr	Ala	Ala	Asn	Arg	Ala
	50					55					60				
Lys	Thr	Arg	Ser	Gly	Leu	Pro	Glu	Gly	Glu	Glu	Arg	Lys	Ile	Tyr	Asp
65					70					75					80
Leu	Tyr	Leu	Trp	Val	Phe	Asp	Ser	Arg	Gly	Gly	Val	Glu	Phe	Ser	Arg
				85					90					95	
Glu	Tyr	Pro	Arg	Ala	Glu	Leu	Tyr	Gln	Ala	Ala	Ala	Ala	Leu	Glu	Thr

100	105	110
Ala Thr Gly Glu Lys Asp Thr Asp	Ala Pro Thr Ser Met Gly Leu Leu	
115	120	125
Lys Asn Ile Pro Ile Thr Ser Gly Glu Lys Thr Leu Val Leu Leu Ala		
130	135	140
Asn Tyr Lys Ser Asp Gly Asp Gly Leu Phe Gln Val Glu Pro Gly Ile		
145	150	155
Leu Ala Gly Val Ser Ser Leu Ser Asp Ile Gln Arg Val Lys Ala Glu		
165	170	175
Met Thr Ala Arg Thr Leu Phe Arg Pro Asn Gly Asn Leu Leu Met Ser		
180	185	190
Val Thr Lys Thr Glu Glu Ile Ser Pro Asp Thr Arg Arg Leu Glu Val		
195	200	205
Ser Leu Lys Arg Ala Glu Ala Lys Ile Thr Ile Asn Leu Lys Thr Gly		
210	215	220
Glu Gly Leu Thr Phe Val Pro Gly Thr Trp Arg Val Gly Asn Val Pro		
225	230	235
Ala Ser Thr Phe Val Thr Glu His Val Lys Gly Ser Asp Ala Gly Ala		
245	250	255
Pro Trp Asp Ala Gly Gly Met Glu Met Asp Ser Tyr Trp Leu Ser Glu		
260	265	270
Leu Phe Gln Phe Glu Gly Asp Ala Thr Thr Thr Thr Thr Thr Phe Tyr		
275	280	285
Leu Pro Glu Asn Arg Lys Leu Ala Lys Lys Met Ile Thr Pro Ala Ser		
290	295	300
Pro Gly Tyr Asn Ala Glu Arg Lys Gly Tyr Asp Leu Arg Gln Lys Gln		
305	310	315
Val Lys Ser Pro Val Pro Asp Ala Thr Glu Lys Pro Asn Val Gln Asn		
325	330	335
Gly Ala Thr Glu Tyr Ala Pro Asp Leu Ala Pro Tyr Ile Glu Phe Thr		
340	345	350
Gly Glu Leu Arg Gln Asp Met Thr Thr Gly Glu Val Ser Thr Glu Arg		
355	360	365
Phe Gly Arg Val Thr Tyr Arg Val Tyr Leu Gly Tyr Thr Ala Glu Asn		
370	375	380
Asp Pro Val Asn Asp Tyr Asp Ile Glu Arg Asn Val His Tyr Thr Tyr		
385	390	395
Asn Val Thr Ile Lys Gly Met Asn Asp Leu Val Val Glu Ala Met Ser		
405	410	415
Asp Lys Asp Arg Glu Glu Glu Pro Ala Pro Gly Val Glu Gly Leu Val		
420	425	430
Tyr Asp Ala His Arg Ser Phe Ser Phe Asp Cys His Tyr Glu Gln Gly		
435	440	445
Leu Met Arg Phe Asn Lys Asp Glu Leu Ala Ile Phe Asn Pro Asp Gly		
450	455	460
Ser Leu Lys Asp Asp Ala Met Ile Ser Phe Ala Ile Arg Thr Pro Phe		
465	470	475
Cys Asp Lys Ile Val Ser Tyr Thr Lys Ala Glu Leu Glu Gln Leu Glu		
485	490	495
Asp Asn Gly Tyr Val Pro Ser Gly Glu Lys Lys Ala Asp Thr Gly Trp		
500	505	510
Leu Ala Phe Phe Ile His Pro Ser Thr Leu Ser Asp Asn Gly Asn Glu		
515	520	525
Thr Met Glu Tyr Tyr Ser Asn Thr Gly Ala His Leu Leu Ser Leu Glu		
530	535	540
Gln Phe Leu Tyr Arg Leu Val Lys Glu Pro Asp Tyr Val Phe Asn Ala		
545	550	555
Ser Thr Gly Leu Cys Lys Val Thr Val Tyr Ala Asn Glu Tyr Phe Tyr		
565	570	575

100 105 110  
 115 120 125  
 130 135 140  
 145 150 155  
 165 170 175  
 180 185 190  
 195 200 205  
 210 215 220  
 225 230 235  
 245 250 255  
 260 265 270  
 275 280 285  
 290 295 300  
 305 310 315  
 325 330 335  
 340 345 350  
 355 360 365  
 370 375 380  
 385 390 395  
 405 410 415  
 420 425 430  
 435 440 445  
 450 455 460  
 465 470 475  
 485 490 495  
 500 505 510  
 515 520 525  
 530 535 540  
 545 550 555  
 565 570 575



Glu	Arg	Asn	Pro	Met	Arg	Asp	Gly	Ala	Pro	Glu	Asp	Lys	Asn	Leu	Trp
			580					585					590		
Lys	Thr	Phe	Ala	Asn	Ala	Pro	Asp	Arg	Thr	Phe	Asp	Leu	Leu	Val	Asn
		595					600					605			
Thr	Ser	His	Glu	Ile	Ser	Pro	Asp	Gly	Gln	Ser	Arg	Tyr	His	Gln	Ala
		610					615					620			
Val	Val	Ser	Ile	Arg	Gln	Met	Ser	Ile	Lys	Thr	Val	Phe	Thr	Glu	Gly
625					630					635					640
Pro	Glu	Gly	Met	Arg	Val	Trp	Gly	Val	Glu	Asn	Val	Asn	Glu	Thr	Pro
				645					650					655	
Asp	Leu	Asp	Phe	Met	Val	Lys	Ala	Pro	Gly	Glu	Pro	Asp	Ala	Phe	Tyr
			660					665					670		
Asn	Lys	Tyr	Thr	Ser	Asn	Gly	Trp	Ser	Asn	Thr	Trp	Lys	Val	Met	Ala
		675					680					685			
Arg	Ser	Gly	Asp	Phe	Ser	Gln	Glu	Val	Met	Ile	Asp	Pro	Met	Arg	Arg
		690					695					700			
Ser	Lys	Gln	Asp	Gln	Leu	Trp	Gln	Val	Met	Thr	Lys	Val	Asp	Asn	Ala
705					710					715					720
Lys	Leu	Thr	Leu	Ser	Arg	Asp	His	Tyr	Asn	Leu	Ala	Ala	Lys	Asn	Tyr
				725					730					735	
His	Ala	Glu	Tyr	Ala	Cys	Phe	Thr	Pro	Phe	Leu	Arg	Asn	Arg	Asp	Asp
			740					745					750		
Asn	Arg	Asp	Gly	Arg	Met	Gln	Ala	Ala	Glu	Met	Lys	Trp	Tyr	Ile	Pro
		755					760					765			
Ser	Val	Ser	Glu	Ser	Gly	Met	Leu	Leu	Val	Gly	Glu	Arg	Ala	Leu	Pro
		770				775					780				
Leu	His	Ser	Arg	Leu	His	Gly	His	Ala	Pro	Ser	Asp	Asn	Ala	Thr	Ala
785					790					795					800
Phe	Tyr	Met	Ser	Arg	Ala	Phe	Met	Ala	Ser	Thr	Asn	Leu	Ser	Leu	Tyr
				805					810					815	
Ser	Ser	Asn	Pro	Tyr	Ile	Cys	Ile	Leu	Glu	Ser	Arg	Ser	Val	Thr	Pro
			820					825					830		
Ile	Ala	Asn	Phe	Asp	Tyr	Tyr	Lys	Gly	Gly	Asn	Ser	Pro	Gly	Asp	Arg
		835					840					845			
Thr	Pro	Tyr	Ser	Glu	Val	Arg	Leu	Ile	Arg	Asp	Leu	Gly	Met	Leu	Glu
						855					860				
Ser	Gly	Glu	Glu	Ser	Tyr	His	Ile	Glu	Glu	Leu	Gly	Lys	Glu	Leu	Asn
865					870					875					880
Lys	Ser	Leu	Val	Asn	Asn	Arg	Thr	Lys	Glu	Glu	Tyr	Leu	Val	Phe	Arg
				885					890					895	
Ala	Asp	Asn	Leu	Pro	Tyr	Ser	Met	Thr	Arg	Gly	Val	Arg	Ala	Ile	Tyr
			900					905					910		
Glu	Leu	Pro	Ala	His	Asp	Glu	Asp	Ser	Gln	Ser	Asn	Thr	Ile	Tyr	Lys
		915					920					925			
Asn	Gly	Phe</													

				1045						1050					1055
Met	Tyr	Leu	His	Gly	Tyr	Leu	Arg	Trp	Val	Thr	Thr	Val	Asp	Thr	Gln
			1060						1065				1070		
Trp	Ala	Gly	Asp	Asn	Asp	Arg	Leu	Val	Asn	Asn	Arg	Lys	Gly	Tyr	Val
		1075					1080					1085			
Arg	Cys	Val	Arg	Asp	Leu	Glu									
	1090					1095									

<210> 10247  
 <211> 89  
 <212> PRT  
 <213> B.fragilis

<400> 10247

Ile	Lys	Ile	Ser	Leu	Gln	Asn	Tyr	Ile	Trp	Tyr	Ile	Arg	Val	Glu	Leu
1			5					10					15		
Phe	Ser	Met	Leu	Ser	Glu	Leu	Ile	Gly	Asn	Phe	Met	Lys	Lys	Gly	Glu
		20					25					30			
Tyr	Leu	Arg	His	Met	Arg	Val	Phe	Ser	Ser	Val	Arg	Phe	Pro	Arg	Gly
	35					40					45				
Tyr	Ser	Cys	Val	Ala	Leu	Tyr	Gln	Glu	Val	Val	Pro	Phe	Ser	Lys	Ala
	50				55				60						
Met	Gly	Leu	Val	Leu	Gly	Ser	Glu	Ile	Val	Ile	Pro	Glu	Lys	Val	Cys
65				70				75					80		
Met	Gly	Arg	Gly	Pro	Leu	Val	Leu	Glu							
				85											

<210> 10248  
 <211> 136  
 <212> PRT  
 <213> B.fragilis

<400> 10248

Lys	Lys	Met	Ser	Lys	Ser	Ser	Phe	Leu	Leu	Asp	Phe	Lys	Ala	Phe	Val
1			5					10					15		
Met	Arg	Gly	Asn	Val	Val	Asp	Met	Ala	Val	Gly	Val	Ile	Ile	Gly	Gly
		20					25					30			
Ala	Phe	Gly	Lys	Ile	Ile	Ser	Ser	Val	Val	Ala	Asp	Ile	Ile	Met	Pro
	35					40					45				
Pro	Ile	Gly	Leu	Leu	Val	Gly	Gly	Thr	Asn	Phe	Ser	Glu	Leu	Arg	Trp
	50				55				60						
Glu	Leu	Glu	Pro	Ala	Arg	Val	Val	Asp	Gly	Val	Glu	Gln	Ala	Ala	Val
65				70				75					80		
Thr	Ile	Asn	Tyr	Gly	Asn	Phe	Ile	Gln	Thr	Met	Leu	Asp	Phe	Val	Ile
		85					90						95		
Ile	Ala	Phe	Ala	Ile	Phe	Leu	Phe	Ile	Arg	Leu	Leu	Ser	Asn	Leu	Arg
	100						105					110			
Arg	Lys	Lys	Glu	Glu	Thr	Pro	Phe	Ala	Pro	Thr	Cys	Pro	Glu	Gln	Arg
	115					120					125				
Gly	Lys	Val	Thr	Phe	Arg	Asn	Thr								
	130					135									

<210> 10249  
 <211> 93  
 <212> PRT  
 <213> B.fragilis

<400> 10249

Arg	His	Ile	Pro	Glu	Ala	Asn	Ser	Trp	Gln	Glu	Gly	His	Pro	His	Pro
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1	5	10	15
Lys Ile Gln Leu Thr Val Glu Tyr Tyr Thr Gly Gly Asn Ile Ser Gln			
20	25	30	
Thr Arg Thr Arg Thr Phe Leu Leu Asp Ile Gly Glu Glu Ser Ser Pro			
35	40	45	
Gly Val Tyr Ser Gly Pro Ile Tyr Pro Asn Arg Asp Tyr Lys Val Phe			
50	55	60	
Met Val Leu Pro Glu Ala Ala Asp Arg Glu Ile Ile Tyr Arg Val Glu			
65	70	75	80
Ser Trp Glu Arg Lys Asp Val Glu Phe Pro Pro Phe Gln			
85	90		

<210> 10250  
 <211> 176  
 <212> PRT  
 <213> B.fragilis

<400> 10250
Leu Arg Ala Pro Gly Glu Glu Arg Ala Arg Ala Asp Gly Gln Gly Ala
1 5 10 15
Cys Val Tyr Gln Ile Val Lys Asp Lys Arg Ile Asp Asp Val Glu Met
20 25 30
Thr Gly Gln Trp Glu Thr Ala Leu Ala Lys Ile Glu Ser Gly Glu Met
35 40 45
Asn Pro Asp Ser Leu Arg Lys Ala Ile Glu Gly Tyr Ala Ala Gln Ile
50 55 60
Thr Glu Glu Leu Leu Gln Val Gln Val Ser Val Ala Asp Gly Gly His
65 70 75 80
Ile Pro Cys Pro Lys Cys Arg Ser Gly Arg Ile Leu Leu Tyr Pro Lys
85 90 95
Val Ala Lys Cys Ser Asn Val Asp Cys Ser Leu Thr Val Phe Arg Asn
100 105 110
Lys Gly Glu Lys Gln Leu Thr Asp Ser Gln Ile Thr Asp Leu Val Thr
115 120 125
Lys Gly Arg Thr Ala Leu Ile Lys Gly Phe Arg Ser Arg Glu Asp Lys
130 135 140
Pro Phe Asp Ala Tyr Leu Thr Phe Asp Lys Asp Phe Arg Ile Val Tyr
145 150 155 160
Gly Phe Pro Pro His Thr Asp Lys Ser Lys Gly Lys Glu His Arg Arg
165 170 175

<210> 10251  
 <211> 67  
 <212> PRT  
 <213> B.fragilis

<400> 10251
Phe Phe Thr Thr Met Lys Glu Tyr Cys Val Tyr Trp Phe Glu Asn Gly
1 5 10 15
Glu Pro Arg His Glu Val Phe Ser Cys Leu Asp Gly Ala Glu Met Phe
20 25 30
Ser Cys Met Ile Arg Gly Gln Asp Gly Val Glu His Val Glu Ile Ser
35 40 45
Glu Glu Asp Ile Ser Ala Pro Glu Glu Phe Arg Glu Ile Cys Pro Gly
50 55 60
Asp Phe Ser
65

<210> 10252

&lt;211&gt; 721

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10252

Leu	Lys	Arg	Thr	Leu	Tyr	Thr	Asn	Ala	Lys	Ala	Asp	His	Met	Val	Arg
1				5					10					15	
Lys	Glu	Glu	Ile	Leu	Ala	Lys	Thr	Gly	Asn	Gly	Leu	Glu	Val	Phe	Arg
			20					25					30		
His	Tyr	Leu	Pro	Val	Lys	Trp	Arg	Val	Gly	Arg	Asn	Phe	Leu	Asn	Pro
		35					40					45			
Leu	Tyr	Ala	Asp	Gly	Arg	Ala	Ser	Cys	Asn	Val	Tyr	Tyr	Asp	Arg	His
	50					55					60				
Ser	Gly	Met	Tyr	Arg	Met	Lys	Asp	Phe	Gly	Asn	Gly	Glu	Tyr	Ser	Gly
65					70					75					80
Asp	Cys	Phe	Phe	Leu	Val	Ala	Lys	Leu	Lys	Gly	Leu	Asp	Cys	Arg	Ser
				85					90					95	
Ala	Ala	Asp	Phe	Val	Glu	Val	Leu	His	Thr	Ile	Asp	Arg	Glu	Leu	Cys
			100					105					110		
Leu	Gly	Leu	Asp	Gly	Ala	Ile	Pro	Ser	Gly	Thr	Asn	Asn	Arg	Glu	Gly
	115						120						125		
Ser	Cys	Arg	Thr	Thr	Arg	Pro	Val	Thr	Gly	Ala	Arg	Glu	Lys	Ser	Glu
	130					135					140				
Gly	Glu	Asn	Thr	Gly	Glu	Ser	Ile	Pro	Gly	Asp	Thr	Val	Thr	Gly	Thr
145					150					155					160
Glu	Gly	Lys	Asp	Leu	Ser	Arg	Glu	Arg	Pro	Gly	Pro	Ser	Pro	Tyr	Gln
				165					170					175	
Val	Ala	Glu	Lys	Ser	Phe	Thr	Glu	Arg	Glu	Leu	Ala	Tyr	Trp	Gly	Ile
			180					185						190	
Ser	Gly	Ile	Thr	Val	Glu	Val	Leu	His	Arg	Tyr	Gly	Val	Val	Ser	Leu
		195					200					205			
Ala	Glu	Tyr	Arg	Ser	Glu	Thr	Arg	Glu	Gly	Lys	Thr	Phe	Gly	Phe	Thr
	210					215						220			
Ser	Thr	Pro	Ala	Glu	Pro	Met	Phe	Gly	Tyr	Arg	Gly	Lys	Trp	Gly	Val
225					230					235					240
Lys	Val	Tyr	Arg	Pro	Leu	Ser	Glu	Val	Arg	Phe	Val	Tyr	Gly	Gly	His
				245					250					255	
Thr	Gly	Asp	Asn	Tyr	Cys	Phe	Gly	Leu	Glu	Gln	Leu	Pro	Ser	Lys	Gly
			260					265					270		
Asp	Leu	Leu	Phe	Leu	Thr	Gly	Gly	Glu	Lys	Asp	Val	Met	Thr	Leu	Ala
	275						280					285			
Ala	His	Gly	Phe	Gln	Ala	Ile	Cys	Phe	Asn	Ser	Glu	Thr	Ser	Val	Ile
	290					295					300				
Pro	Ala	Lys	Thr	Val	Arg	Lys	Leu	Val	Tyr	Arg	Phe	Lys	His	Ile	Val
305					310					315					320
Leu	Leu	Tyr	Asp	Thr	Asp	Lys	Thr	Gly	Leu	Glu	Cys	Ser	Glu	Lys	His
				325					330					335	
Arg	Val	Gln	Leu	Ser	Glu	Tyr	Gly	Val	Lys	Arg	Leu	Val	Leu	Pro	Leu
			340					345					350		
Pro	Gly	Thr	Lys	Ser	Glu	Lys	Asp	Val	Thr	Asp	Tyr	Phe	Lys	Ala	Gly
		355					360					365			
His	Thr	Arg	Glu	Asp	Leu	Met	Gly	Leu	Phe	Leu	Lys	Leu	Leu	Asp	Thr
	370					375					380				
Leu	Tyr	Gly	Asp	Thr	Met	Ala	Val	Leu	Lys	Ser	Cys	Glu	Ile	Asp	Tyr
385					390					395					400
Asp	Cys	Pro	Pro	Glu	Gln	Ala	Val	Ala	Ile	Val	Thr	Ala	Gly	Asp	Val
				405					410					415	
Pro	Leu	Gly	Ser	Glu	Glu	Asn	Ile	Leu	Cys	Ile	Thr	Gly	Gly	Glu	Gly
			420					425						430	

Thr Gly Lys Ser Asn Tyr Thr Ala Ala Leu Val Ala Gly Ala Ile Met  
 435 440 445  
 Glu Arg Glu Glu Asp Ala Asp Leu Leu Gly Val Lys Val Glu Pro Asn  
 450 455 460  
 Arg Lys Gly Arg Ala Val Leu Leu Tyr Asp Thr Glu Gln Ser Glu Gln  
 465 470 475 480  
 Gln Leu Tyr Lys Asn Thr Gly Arg Leu Leu Arg Arg Ala Gly Arg Glu  
 485 490 495  
 Lys Met Pro Pro Tyr Leu His Val Tyr Cys Leu Thr Gly Met Ser Arg  
 500 505 510  
 Asn Glu Arg Leu Thr Ala Ile Ile Gln Ser Met Asp Lys Tyr His Tyr  
 515 520 525  
 Leu His Gly Gly Ile His Leu Val Val Ile Asp Gly Val Ala Asp Leu  
 530 535 540  
 Ile Arg Cys Ser Asn Asp Glu Ala Glu Ser Val Ala Leu Val Asp Glu  
 545 550 555 560  
 Ile Tyr Arg Leu Ala Gly Ile Tyr Arg Thr Cys Ile Thr Ala Val Val  
 565 570 575  
 His Phe Val Pro Asn Gly Leu Lys Leu Arg Gly His Leu Gly Ser Glu  
 580 585 590  
 Leu Gln Arg Lys Ser Ala Ala Ile Leu Ser Ile Glu Lys Asp Glu Asn  
 595 600 605  
 Pro Glu Val Ser Val Val Lys Ala Leu Lys Val Arg Asp Gly Ser Pro  
 610 615 620  
 Leu Asp Ile Pro Leu Met Gln Phe Arg Trp Asp Lys Gln Ala Gly Met  
 625 630 635 640  
 Pro Val Tyr Met Gly Glu Lys Pro Arg Val Glu Lys Glu Arg Arg Lys  
 645 650 655  
 Glu Lys Glu Leu Ser Glu Met Ala Arg Ala Ala Phe Val Thr Gln Lys  
 660 665 670  
 Lys Tyr Gly Tyr Ile Glu Leu Cys Glu Leu Ile Gln Glu Thr Leu Asp  
 675 680 685  
 Val Lys Glu Arg Thr Ala Lys Gly Tyr Ile Arg Tyr Met Arg Glu Lys  
 690 695 700  
 Glu Ile Ile Glu Lys Glu Gly Asp Cys Tyr Val Tyr Gly Gln Arg Lys  
 705 710 715 720  
 Ile

<210> 10253  
 <211> 140  
 <212> PRT  
 <213> B.fragilis

<400> 10253  
 Ala Ile Arg Thr Lys Asp Val Gly Asp Asn Trp Arg Lys Pro Gly Gln  
 1 5 10 15  
 Asp Phe Leu Val Ser Lys Ser Phe Asp Val Thr Leu Arg Asp Phe Thr  
 20 25 30  
 Leu Ile Asp Glu Ile Leu Lys Arg Val Asp Thr Lys Gly Ile His Thr  
 35 40 45  
 Met Tyr Ile Asp Lys Leu Glu His Arg His Ile Leu Ser Tyr His Arg  
 50 55 60  
 Lys Gly Lys Ile Glu Ala Leu Lys Ala Ala Arg Glu Lys Ala Val Tyr  
 65 70 75 80  
 Leu Leu Glu Ala Ile Gly Lys Arg Pro Gly Glu Ile Ile Arg Ile Val  
 85 90 95  
 Glu Gly Gly Asp Ala Gly Lys Glu Met Phe Ala Gln Gly His Ile Leu  
 100 105 110

Ser Val Ala Pro Pro Pro Phe Glu Arg Ser Arg Thr Ile Lys Lys Arg  
 115 120 125  
 Tyr Ser Met Leu Val Arg Phe Gly Ile Val Asp Arg  
 130 135 140

<210> 10254  
 <211> 292  
 <212> PRT  
 <213> B.fragilis

<400> 10254  
 Pro Phe Ala Ala Ser Ala Ser Ser Thr Arg Arg Arg Cys Arg Ser Ser  
 1 5 10 15  
 Ser Ser Val Thr Thr Ser Pro Thr Pro Thr Ser Arg Cys Ser Gly Arg  
 20 25 30  
 Arg Ala Thr Trp Gly Thr Arg Arg Leu Val Thr Asn Arg Ala Gly Glu  
 35 40 45  
 Gln Val Glu Ala Leu Val Ser Arg Asn Phe Lys Thr Asn Glu Leu Val  
 50 55 60  
 Ala Phe Pro Leu Ser Lys Val Asn Ile Pro Ala Glu Lys Asn Gly His  
 65 70 75 80  
 Thr Phe Thr Pro Asp Glu Ile Ala Arg Leu Lys Gln Gly Glu Ala Val  
 85 90 95  
 Val Cys Gln Phe Leu Ser Arg Ala Lys Glu Gly Glu Gln Pro Lys Ile  
 100 105 110  
 Tyr Pro Ala Pro Val Gln Phe Ser Ala Ala Lys Met Gln Leu Glu Phe  
 115 120 125  
 Leu Phe Gly Asp Arg Gly Lys Leu Ala Met Asp Ala Tyr Lys Thr Asn  
 130 135 140  
 Leu Lys Gln Thr Ala Asn Gln Glu Val Pro Lys Thr Phe Arg Lys Gln  
 145 150 155 160  
 Glu Leu Thr Glu Lys Ser Arg Leu Glu Leu Glu Ala Gly Gly Thr Val  
 165 170 175  
 Lys Val Ser Gly Leu Val Asp Lys Lys Gly Lys Ala Tyr Gln Gly Tyr  
 180 185 190  
 Ile Thr Trp Lys Pro Gly Glu Lys Pro Ala Phe Met Phe Pro Lys Asp  
 195 200 205  
 Tyr Lys Ala Ala Leu Glu Glu Gly Arg Val Lys Pro Ala Val Glu Asn  
 210 215 220  
 Glu Val Gln Val Ala Val Asn Ser Glu Gly Lys Thr Val Glu Ala Thr  
 225 230 235 240  
 Arg Asn Leu Lys Glu Ala Leu Gln Ser Ala Gln Gln Arg Pro Thr Gly  
 245 250 255  
 Glu Gln Lys Gln Gln Gln Glu Arg Lys Gln Glu Gln Lys Glu Glu Arg  
 260 265 270  
 Lys Gln Ser Gln Lys Gln Glu Gln Pro Asp Lys Pro Lys Arg Ser Arg  
 275 280 285  
 Gly Val Arg Arg  
 290

<210> 10255  
 <211> 281  
 <212> PRT  
 <213> B.fragilis

<400> 10255  
 Leu Arg Asn Asn Met Ile Glu Thr Tyr Phe Asn Asn Leu Met Gln Glu  
 1 5 10 15  
 Val Glu Arg Lys Met Gly Ile Glu Ser Ser Arg Met Glu Gly Glu Gln

Val	Ile	Arg	Thr	Cys	Gln	Glu	Met	Val	Ser	Phe	Leu	Arg	Glu	Arg	Ser
		35					40						45		
Arg	Glu	Leu	Lys	Asp	Tyr	Val	Leu	Asn	His	Pro	Phe	Ser	Asn	Val	Glu
	50					55					60				
Glu	Glu	Ile	Cys	Phe	Phe	Lys	Tyr	Tyr	Lys	Pro	Ala	Leu	Thr	Gly	Arg
65					70					75					80
Leu	Leu	Tyr	Tyr	Tyr	Arg	Val	Tyr	Gln	Ile	Glu	Ser	Gly	Cys	Ser	Cys
				85					90					95	
Cys	Pro	Glu	Ile	Ala	Arg	Met	His	Tyr	Arg	Lys	Ala	Met	Lys	Glu	Tyr
		100						105					110		
Gln	Arg	Lys	Leu	Glu	Arg	Tyr	Leu	Pro	Phe	Tyr	Gln	Tyr	Tyr	Arg	Ser
	115						120					125			
Gly	Ala	Thr	Tyr	Arg	Asp	His	Tyr	Tyr	Phe	Arg	Arg	Ala	Lys	Lys	Glu
130					135						140				
Leu	Ser	Pro	Glu	Ser	Gly	Ser	Phe	Met	Leu	Glu	Glu	Asp	Ser	Val	Met
145					150					155					160
Ser	Thr	Gly	Tyr	Asp	Leu	Leu	Ala	Ala	Arg	Leu	Ile	Ala	Ala	Glu	Met
				165					170					175	
Leu	Leu	Gly	Tyr	Leu	Asn	Arg	Lys	Val	Leu	Leu	Ala	Met	Glu	Gly	Ala
		180						185					190		
Tyr	Ala	Val	Gln	Glu	Lys	Glu	His	His	Trp	Thr	Asp	Arg	Lys	Ala	Ala
	195						200					205			
Ala	Val	Glu	Leu	Ile	Tyr	Gly	Ile	Trp	Ala	Met	Gly	Ser	Val	Asp	Asn
	210					215					220				
Gly	Arg	Val	Ser	Ile	Val	Glu	Leu	Val	Met	Leu	Phe	Glu	Gln	Met	Phe
225					230					235					240
His	Ile	Asp	Leu	Gly	Asp	Val	Tyr	His	Thr	Phe	Ile	Ser	Met	Arg	Asn
				245					250					255	
Arg	Lys	Asn	Ser	Arg	Thr	Ala	Tyr	Leu	Asp	Gln	Met	Lys	Glu	Arg	Leu
		260						265					270		
Leu	Lys	Arg	Met	Asp	Glu	Thr	Asp	Gly							
		275					280								

<210> 10256  
 <211> 415  
 <212> PRT  
 <213> B.fragilis

<400> 10256															
Ser	Gly	Cys	Lys	Ile	Gly	Pro	Val	Ser	Thr	Ile	Phe	Ser	Pro	Ile	Asn
1			5						10					15	
Arg	Ile	Arg	Lys	Met	Lys	Ala	Pro	Arg	Lys	Ile	Tyr	Thr	Trp	Thr	Ser
		20						25					30		
Ile	Leu	Leu	Phe	Val	Cys	Cys	Ser	Leu	Ile	Phe	Leu	Ser	Cys	Glu	Lys
	35						40					45			
Glu	Glu	Leu	Gly	Glu	Ala	Met	Glu	Asn	Arg	Lys	Thr	Leu	Phe	Met	Phe
	50					55					60				
Leu	Pro	Trp	Ser	Thr	Asp	Leu	Thr	Gly	Tyr	Phe	Tyr	Thr	Asn	Ile	Ala
65					70					75					80
Asp	Met	Glu	Ala	Cys	Val	Ser	Arg	Arg	Gly	Leu	Glu	His	Glu	Arg	Ile
				85					90					95	
Leu	Val	Phe	Met	Ser	Thr	Ser	Ser	Thr	Glu	Ala	Thr	Met	Phe	Glu	Ile
		100						105					110		
Ile	His	Ser	Lys	Gly	Lys	Cys	Asp	Arg	Lys	Thr	Leu	Lys	Arg	Tyr	Gly
	115						120						125		
Thr	Ser	Gly	Phe	Thr	Thr	Val	Glu	Gly	Ile	Thr	Gly	Ile	Leu	Asn	Asp
	130					135					140				
Val	Gln	Glu	Phe	Ala	Pro	Ala	Pro	Val	Tyr	Ala	Met	Ile	Ile	Gly	Ser

145		150		155		160
His Gly Met Gly Trp	Leu Pro Val Asp Gly Thr Gln Ala Asp Ser Leu					
	165		170		175	
Phe Arg Met Lys Lys	His Trp Glu Tyr Gln Glu Gln Pro Leu Thr Arg					
	180		185		190	
Tyr Phe Gly Gly Leu	Thr Arg Glu Phe Gln Thr Asp Val Gly Thr Leu					
	195		200		205	
Ala Arg Gly Ile Val	Gly Ala Gly Val Lys Met Glu Tyr Ile Leu Phe					
	210		215		220	
Asp Asp Cys Tyr Met	Ser Ser Val Glu Val Ala Tyr Glu Leu Lys Glu					
	225		230		235	
Ala Thr Arg Phe Leu	Ile Ala Ser Thr Ser Glu Met Met Ala Tyr Gly					
	245		250		255	
Met Pro Tyr Ala Thr	Val Gly Glu Phe Leu Leu Gly Asn Pro Asp Tyr					
	260		265		270	
Gly Ser Leu Cys Glu	Gly Phe His Asp Phe Tyr Ser Thr Tyr Glu Met					
	275		280		285	
Met Pro Cys Gly Thr	Leu Ala Val Thr Asp Cys Ser Glu Leu Asp Asn					
	290		295		300	
Met Ala Ala Ile Met	Lys Ser Ile Asn Asp Arg Tyr Val Phe Asp Asp					
	305		310		315	
Ser Leu Gln Gly Glu	Leu Gln Gly Leu Asp Gly Tyr Thr Pro Val Ile					
	325		330		335	
Phe Tyr Asp Phe Ala	Asp Tyr Val Leu Thr Leu Cys Ser Asp Pro Val					
	340		345		350	
Leu Thr Ala Arg Phe	Arg Glu Gln Leu Glu Arg Leu Val Pro Tyr Lys					
	355		360		365	
Thr His Thr Gly Lys	Phe Tyr Ser Arg Thr Lys Gly Pro Leu Pro Ile					
	370		375		380	
His Thr Phe Ser Gly	Ile Thr Ile Ser Asp Pro Ser Thr Asn Pro Met					
	385		390		395	
Ala Leu Leu Lys Gly	Thr Thr Ser Trp Tyr Lys Ala Thr His Glu					
	405		410		415	

&lt;210&gt; 10257

&lt;211&gt; 85

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10257

His Ala Ala Lys Val	Phe Phe Leu Val Gln Lys Asn Arg Arg Gly Ala
1	5 10 15
Leu Phe Gly Leu Ser	Thr Val Ala Ile Tyr Cys Ile Phe Thr Lys Trp
	20 25 30
Arg Ile Gly Lys Gly	Asp Leu Ala Thr Cys Tyr Glu Pro Ala Ser Leu
	35 40 45
Phe Leu Val Leu Gln	Lys Val Ile Arg Pro Phe Arg Pro Phe Val Ser
	50 55 60
Thr Asn Val Pro Ser	Phe Asp Gln Gly Lys Leu Ser Gly Cys Ser Ser
	65 70 75 80
Gly Tyr Ala Trp Arg	
	85

&lt;210&gt; 10258

&lt;211&gt; 232

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10258



Asn Ala Met Asn Arg Tyr Val Ser Glu Met Ile Gly Thr Met Val Leu  
 1 5 10 15  
 Val Leu Met Gly Cys Gly Ser Ala Val Phe Ala Gly Asp Met Pro Gly  
 20 25 30  
 Ala Val Thr Thr Gly Val Gly Thr Leu Gly Val Ala Ile Ala Phe Gly  
 35 40 45  
 Leu Ser Val Val Ala Met Ala Tyr Ala Ile Gly Gly Ile Ser Gly Cys  
 50 55 60  
 His Ile Asn Pro Ala Ile Thr Leu Gly Met Tyr Cys Ser Gly Gly Met  
 65 70 75 80  
 Gly Gly Lys Asp Ala Leu Leu Tyr Ile Ile Phe Gln Ile Ile Gly Gly  
 85 90 95  
 Ile Leu Gly Ser Ala Val Leu Phe Ile Leu Val Ser Thr Gly Pro His  
 100 105 110  
 Ala Gly Pro Thr Met Thr Gly Ser Asn Gly Phe Val Glu Gly Glu Met  
 115 120 125  
 Leu Gln Ala Phe Ile Ala Glu Ala Val Phe Thr Phe Ile Phe Val Leu  
 130 135 140  
 Val Ala Leu Gly Ala Thr Asp Lys Lys Lys Gly Ala Gly Lys Leu Ala  
 145 150 155 160  
 Gly Leu Val Ile Gly Leu Thr Leu Val Leu Val His Ile Val Cys Ile  
 165 170 175  
 Pro Ile Thr Gly Thr Ser Val Asn Pro Ala Arg Ser Ile Gly Pro Ala  
 180 185 190  
 Leu Phe Glu Gly Gly Gly Ala Ile Ser Gln Leu Trp Leu Phe Ile Val  
 195 200 205  
 Ala Pro Leu Thr Gly Gly Leu Ala Ser Ala Ile Val Trp Lys Ala Ile  
 210 215 220  
 Ser Gln His Ser Asp Arg Gln Arg  
 225 230

&lt;210&gt; 10259

&lt;211&gt; 378

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10259

His Asn Met Asn Phe Glu Gln Leu Ala Thr Ile Ile Ala Asp Thr His  
 1 5 10 15  
 Gln Arg Leu Gln Gln Ser Ala Val Lys Ala Val Asn Gln Cys Gln Thr  
 20 25 30  
 Met Arg Asn Trp Leu Ile Gly Phe Tyr Ile Val Glu Phe Glu Gln Asn  
 35 40 45  
 Gly Glu Asp Arg Ala Lys Tyr Gly Glu Phe Leu Leu Lys Asn Leu Glu  
 50 55 60  
 Gln Lys Val Asn Leu Lys Gly Leu Asn Ile Thr Leu Phe Lys Arg Ser  
 65 70 75 80  
 Arg Val Phe Tyr Met Val Tyr Pro Gln Leu Ala Thr Val Ile Lys Thr  
 85 90 95  
 Ile Leu Pro Pro Thr Gly Ala Ser Thr Met His Leu Leu Glu Met Gln  
 100 105 110  
 Gly Leu Gly Lys Ser Ala Ser Leu Met His Leu Leu Gln Asn Ala Glu  
 115 120 125  
 Asn Lys Gln Asp Ile Val Asn Thr Ile Glu Pro Gln Lys Leu Leu Ser  
 130 135 140  
 Ser Ile Ser Phe Thr His Phe Ile Glu Leu Val Lys Ile Asp Asn Pro  
 145 150 155 160  
 Ile Lys Arg Met Tyr Tyr Glu Met Leu Thr Ile Gln Thr Gly Leu Ser  
 165 170 175

Val Arg Glu Leu Lys Arg Gln Ile Gly Ala Leu Ser Tyr Glu Arg Val  
 180 185 190  
 Gly Leu Ser Gly Asn Met Glu Asn Ala Leu Ala Ala Ile Gln Gln Lys  
 195 200 205  
 Ile His Pro Gln Thr Val Thr Asp Ala Val Lys Asp Asp Tyr Phe Phe  
 210 215 220  
 Glu Phe Leu Asn Ile Pro Gln Gln Arg Ala Ser Leu Leu Lys Glu Lys  
 225 230 235 240  
 Glu Leu Glu Thr Leu Leu Leu Asp His Leu Arg Asp Phe Ile Ile Glu  
 245 250 255  
 Leu Gly Asn Gly Phe Cys Phe Glu Ala Arg Gln Lys Arg Ile Leu Ile  
 260 265 270  
 Gly Asp Glu Phe Tyr Phe Ile Asp Met Val Phe Tyr His Arg Ile Leu  
 275 280 285  
 Lys Cys His Ile Leu Cys Glu Leu Lys Val Asp Thr Phe Asn His Ala  
 290 295 300  
 His Val Ser Gln Leu Tyr Ser Tyr Leu Asn Tyr Tyr Lys Ala Glu Val  
 305 310 315 320  
 Met Glu Pro Gly Asp Asn Pro Pro Ile Gly Ile Leu Leu Val Thr Asp  
 325 330 335  
 Lys Asn Asp Ala Leu Val Arg Tyr Thr Thr Thr Gly Leu Asp Glu Gln  
 340 345 350  
 Ile Phe Val Ser Lys Tyr Gln Leu Gln Leu Pro Thr Glu Gln Gln Leu  
 355 360 365  
 Lys Glu Leu Ile Leu Lys Thr Ile Arg Gln  
 370 375

&lt;210&gt; 10260

&lt;211&gt; 120

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10260

Lys Leu Asn Leu Met Met Lys Lys Ile Phe Ile Ser Leu Phe Leu Ser  
 1 5 10 15  
 Gly Val Phe Met Tyr His Thr Asn Ala Gln Thr Ala Val Glu Gly Asn  
 20 25 30  
 Lys Phe Leu Asp Asn Trp Ser Ile Gly Ile Ser Ala Gly Gly Thr Thr  
 35 40 45  
 Pro Leu Thr His His Ser Phe Gly Asn Met Arg Pro Ile Thr Glu  
 50 55 60  
 Ile Glu Leu Asn Lys Gln Leu Thr Pro Val Phe Gly Phe Gly Leu Glu  
 65 70 75 80  
 Ala Val Gly Ser Phe Asn Thr Ser Gln Ser Arg Thr Ile Phe Asp Arg  
 85 90 95  
 Ser Asn Val Ser Leu Leu Gly Leu Glu Asn Leu Asn Asn Leu Leu Gly  
 100 105 110  
 Thr Tyr Thr Gly Val Pro Arg Pro  
 115 120

&lt;210&gt; 10261

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10261

Lys Ile Met Glu Ile Ile Ala Ile Glu Ser Ile Ala Phe Ala Thr Leu  
 1 5 10 15  
 Val Glu Lys Ile Glu Gly Ile Ala Ala Tyr Val Gln Ala Ser Gly Thr

	20		25		30										
Lys	Glu	Arg	Glu	Gln	Trp	Pro	Val	Ala	Asp	Lys	Lys	Gly	Thr	Arg	Lys
	35						40					45			
Ala	Gly	Leu	Trp	Met	Thr	Gly	Lys	Glu	Val	Cys	Glu	Gln	Leu	Glu	Ile
	50					55					60				
Ser	Pro	Arg	Thr	Leu	Gln	Arg	Tyr	Arg	Thr	Asn	Arg	Ile	Ile	Ala	Tyr
	65				70					75				80	
Ser	Ile	Cys	Gly	Arg	Lys	Ile	Arg	Tyr	Arg	Arg	Thr	Asp	Val	Glu	Gln
			85						90					95	
Phe	His	Glu	Arg	Trp	Ile	Arg	Glu	Thr	Pro	Asp	Lys	Leu	Val	Asp	Arg
		100					105						110		
Met	Ile	Glu	Ala	Tyr	Pro	Leu	His	Gln	Cys	Lys	Ser	Arg	Ser	Tyr	Gly
		115					120					125			
Lys	Lys	Arg	Gly	Asn	Thr	Gly	Lys	Asn	Arg						
	130					135									

&lt;210&gt; 10262

&lt;211&gt; 143

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10262

Arg	Asn	Gly	Arg	Arg	Arg	Gly	Thr	Ser	Val	Thr	Cys	Gly	Lys	Arg	Lys
1			5						10					15	
Leu	Leu	Lys	Arg	Arg	Ala	Thr	Ala	Met	Tyr	Met	Asp	Ser	Glu	Lys	Phe
		20						25					30		
Glu	Asn	Trp	Met	Glu	Arg	Ile	Met	Glu	Arg	Phe	Asp	Arg	Thr	Glu	Lys
		35					40					45			
Leu	Leu	Glu	Arg	Val	Leu	Lys	Lys	Ser	Asn	Ala	Leu	Asp	Gly	Glu	Glu
	50					55					60				
Val	Leu	Asp	Asn	Gln	Asp	Leu	Cys	Leu	Leu	Leu	Lys	Val	Gly	Ile	Arg
	65				70					75				80	
Thr	Leu	Gln	Arg	Tyr	Arg	Ala	Ile	Gly	Ile	Leu	Pro	Tyr	Phe	Thr	Ile
			85						90					95	
Ser	Gly	Lys	Val	Phe	Tyr	Arg	Val	Lys	Asp	Val	His	Glu	Phe	Leu	Arg
		100						105					110		
Asn	Gln	Phe	Ala	Ala	Val	Glu	Glu	Arg	Ala	Ala	Lys	Arg	Lys	Glu	Lys
		115					120						125		
Glu	Val	Arg	Lys	Glu	Glu	Arg	Arg	Lys	Lys	Gly	Leu	Phe	Pro		
	130					135					140				

&lt;210&gt; 10263

&lt;211&gt; 235

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10263

Phe	Asn	Leu	Arg	Glu	Ser	Lys	Ala	Trp	Thr	Leu	Ala	Leu	Lys	Pro	Ala
1				5					10					15	
Leu	Val	Tyr	Asp	Met	Asn	Ala	Met	Gly	Ser	Glu	Ala	Val	Arg	Phe	His
		20						25					30		
Ser	Gly	Arg	Ala	Val	Trp	Glu	Ile	Ser	Val	Gly	Leu	Lys	Tyr	His	Phe
		35					40					45			
Gly	Cys	Ser	Asn	Gly	Lys	His	His	Phe	Thr	Lys	Val	Arg	Ala	Tyr	Asp
	50					55					60				
Gln	Gln	Glu	Val	Asp	Val	Leu	Asn	Ala	Lys	Ile	Asn	Glu	Leu	His	Thr
	65				70					75				80	
Gln	Ala	Gly	Lys	Asp	Ala	Lys	Ala	Leu	Gln	Glu	Ala	Val	Arg	Lys	Val
				85					90					95	

Thr Glu Leu Glu Ala Ala Leu Asp Lys Cys Arg Asn Gln Glu Pro Lys  
 100 105 110  
 Ile Val Lys Asp Thr Ile Asp Asn Thr Lys Lys Thr Leu Glu Ser Val  
 115 120 125  
 Ile Thr Phe Arg Gln Gly Arg Thr Thr Val Asp Asn Ser Gln Leu Pro  
 130 135 140  
 Asn Val Glu Arg Ile Ala Thr Tyr Leu Lys Asn His Lys Gly Ala Ser  
 145 150 155 160  
 Val Leu Ile Lys Gly Tyr Ala Ser Pro Glu Gly Ser Val Glu Val Asn  
 165 170 175  
 Glu Arg Ile Ala Arg Gln Arg Ala Glu Ala Val Lys Lys Met Leu Val  
 180 185 190  
 Gly Lys Tyr Gly Ile Ala Glu Glu Arg Ile Val Ala Glu Gly Gln Gly  
 195 200 205  
 Val Gly Asn Met Phe Glu Glu Pro Asp Trp Asn Arg Val Ser Ile Cys  
 210 215 220  
 Thr Ile Asn Ala Gly Thr Glu Ser Ser Ser Arg  
 225 230 235

<210> 10264  
 <211> 91  
 <212> PRT  
 <213> B.fragilis

<400> 10264  
 Thr Val Met Arg Val Phe Asn Leu Leu Leu Leu Ile Ser Met Phe Ser  
 1 5 10 15  
 Pro Ile Pro Leu Pro Ala Gln Val Gly Glu Arg Tyr Ile Glu Val Ala  
 20 25 30  
 Gly Thr Ser Glu Ile Glu Val Val Pro Asp Arg Ile His Tyr Val Ile  
 35 40 45  
 Glu Ile Arg Gln Tyr Phe Glu Val Glu Phe Asp Gly Val Ser Glu Pro  
 50 55 60  
 Glu Glu Tyr Arg Thr Lys Val Pro Leu Thr Arg Ile Glu Glu Gln Leu  
 65 70 75 80  
 Lys Gln Val Leu Thr Ile Val Gly Val Pro Arg  
 85 90

<210> 10265  
 <211> 87  
 <212> PRT  
 <213> B.fragilis

<400> 10265  
 Pro Val Asn Arg Leu Ile Asp Ser Thr His Asp Lys Met Lys Asp Tyr  
 1 5 10 15  
 Tyr Phe Ile Met Asn Ala Gly Val Lys Ala Gly Gly Glu Ile Thr His  
 20 25 30  
 Ala Val Leu Glu Gly Lys Ile Val Ser Ala Pro Lys Gly Tyr Asp Ala  
 35 40 45  
 Phe Thr Gly Ile Glu Ala Ala Arg Glu Lys Leu Ala Cys Gly Asn Ile  
 50 55 60  
 Arg Gln Gln Met Glu Glu Phe Gly Ile Glu Leu Glu Ile Val Pro Val  
 65 70 75 80  
 Asn Thr Asp Phe Leu Leu Arg  
 85

<210> 10266  
 <211> 143

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10266

Glu	Gly	Ala	Gly	Val	Arg	Thr	Glu	Arg	Arg	Gln	Asp	Met	Gly	Cys	Thr
1				5					10					15	
Val	Glu	Arg	Ser	Ala	Gly	Gly	Arg	Glu	Asn	Pro	Asn	Gly	Val	Arg	Glu
			20					25					30		
Asp	Val	Ile	Lys	Lys	Gln	Pro	Ala	Asp	Leu	Gly	Ile	Ile	Lys	Glu	Ala
			35				40						45		
Trp	Gln	Val	Leu	Leu	Ile	Ala	Lys	Ile	Thr	Glu	Ile	Val	Gly	Thr	Thr
			50				55					60			
Asn	Ile	Arg	Ile	Leu	Gln	Met	Arg	Asn	Tyr	Val	Leu	Arg	Ile	Cys	Tyr
65					70					75					80
Tyr	Cys	Arg	Ile	Val	Phe	Lys	Ile	Asn	Ser	Phe	Asn	Cys	Cys	Ser	Val
				85					90					95	
Gly	Ser	Cys	Asn	Trp	Tyr	Leu	Glu	Thr	Asn	Ile	Cys	Ser	Ser	Asn	Pro
			100					105						110	
Val	Val	Val	Tyr	Arg	Thr	Asn	Ala	Ser	Phe	Leu	Ser	Val	Thr	Ser	Lys
			115				120						125		
Met	Pro	Ile	Gly	Gly	Leu	Ser	Pro	Gly	Ser	Ile	Thr	Ser	Ala	Leu	
			130				135							140	

&lt;210&gt; 10267

&lt;211&gt; 98

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10267

Asn	Ser	Asp	Met	Thr	Lys	Ala	Asp	Ile	Ile	Asn	Arg	Val	Ser	Glu	Glu
1				5					10					15	
Leu	Gly	Ile	Asp	Arg	Arg	Thr	Val	Gly	Leu	Val	Ile	Glu	Ser	Phe	Met
			20					25					30		
Lys	Cys	Val	Lys	Asp	Ala	Leu	Gly	Arg	Glu	Arg	Ile	Val	Phe	Leu	Arg
			35				40						45		
Gly	Phe	Gly	Thr	Phe	Ser	Leu	Lys	Lys	Arg	Ala	Ala	Lys	Lys	Ala	Gln
			50				55				60				
Asn	Ile	Gln	Gln	His	Thr	Thr	Ile	Cys	Ile	Pro	Ala	Arg	Lys	Val	Pro
65					70					75					80
His	Phe	Lys	Pro	Ser	Glu	Ser	Phe	Leu	Val	Leu	Arg	Lys	Glu	Asp	Asn
				85					90					95	

Arg Lys

&lt;210&gt; 10268

&lt;211&gt; 81

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10268

Gln	Val	Arg	Ile	Thr	Cys	Ser	Pro	Ser	Ile	Arg	Glu	Asp	Ser	Met	Pro
1				5					10					15	
Ile	Leu	Arg	Ser	Thr	Ser	Cys	Ile	Lys	Leu	Leu	Lys	Tyr	Val	Ser	Ile
			20					25					30		
Met	Leu	Phe	Leu	Asn	Tyr	Gly	Ala	Arg	Glu	Tyr	Leu	His	Ala	Thr	Arg
			35				40						45		
Phe	Ile	Phe	Met	Pro	Arg	Leu	Ile	Arg	Ser	Gln	Val	Phe	Leu	Ser	Ala
			50				55				60				
Leu	Tyr	Asp	Glu	Lys	Thr	Phe	Pro	His	Ile	Glu	Lys	Thr	Gly	Glu	Lys

65  
Pro

70

75

80

<210> 10269  
<211> 546  
<212> PRT  
<213> B.fragilis

<400> 10269

Arg	Asn	Met	Ile	Thr	Ala	Val	Ile	Ala	Glu	Lys	Pro	Ser	Val	Ala	Lys
1			5						10					15	
Asp	Ile	Ala	Asn	Val	Leu	Asn	Val	Arg	Glu	Arg	His	Asp	Gly	Tyr	Leu
			20					25					30		
Ser	Gly	Asn	Gly	Tyr	Leu	Val	Thr	Trp	Ala	Phe	Gly	His	Leu	Val	Gln
		35					40					45			
Leu	Ala	Met	Pro	Glu	Ala	Tyr	Gly	Tyr	Ala	Gly	Phe	Arg	Arg	Glu	Asn
	50					55					60				
Leu	Pro	Ile	Leu	Pro	Gln	Glu	Phe	Lys	Tyr	Ile	Pro	Arg	Gln	Ile	Arg
65					70				75					80	
Glu	Gly	Lys	Glu	Tyr	Lys	Pro	Asp	Pro	Gly	Val	Leu	Lys	Gln	Leu	Lys
				85					90					95	
Val	Ile	Arg	Glu	Val	Phe	Asp	Arg	Ser	Asp	Arg	Ile	Val	Val	Ala	Thr
			100					105					110		
Asp	Ala	Gly	Arg	Glu	Gly	Glu	Ala	Ile	His	Arg	Tyr	Ile	Tyr	Asn	Tyr
	115						120						125		
Leu	Gly	Cys	Arg	Lys	Pro	Cys	Leu	Arg	Leu	Trp	Ile	Ser	Ser	Leu	Thr
	130					135					140				
Asp	Arg	Ala	Ile	Arg	Glu	Gly	Leu	Asp	Asn	Leu	Lys	Ile	Gly	Ser	Asp
145					150					155					160
Tyr	Asp	Asn	Leu	Tyr	Arg	Ala	Ala	Glu	Ala	Arg	Ala	Ile	Ala	Asp	Trp
				165					170					175	
Glu	Ile	Gly	Leu	Asn	Ala	Thr	Gln	Ala	Leu	Ser	Ile	Ala	Ala	Gly	Gln
			180					185						190	
Gly	Ile	Tyr	Ser	Leu	Gly	Arg	Val	Gln	Thr	Pro	Thr	Leu	Met	Met	Ile
	195						200					205			
Cys	Ser	Arg	Tyr	Leu	Glu	Asn	Arg	Asp	Phe	Thr	Pro	Gln	Thr	Tyr	Tyr
	210					215					220				
Arg	Leu	Lys	Val	Thr	Ala	Glu	Lys	Asp	Gly	Thr	Pro	Phe	Ala	Ala	Ile
225					230					235					240
Ser	Glu	Leu	Arg	Tyr	Glu	Thr	Leu	Pro	Ala	Ala	Asn	Ala	Ala	Leu	Gly
				245					250					255	
Ala	Val	Thr	Ala	Thr	Gly	Thr	Val	Glu	Val	Ala	Asp	Leu	Gln	Arg	Arg
			260					265					270		
Glu	Val	Ser	Gln	Glu	Pro	Pro	Leu	Leu	Tyr	Asp	Leu	Thr	Ala	Leu	Gln
			275				280					285			
Lys	Glu	Ala	Asn	Gly	Arg	Tyr	Gly	Phe	Ser	Ala	Asp	Lys	Thr	Leu	Ser
	290					295					300				
Ile	Ala	Gln	Ser	Leu	Tyr	Glu	Lys	Lys	Val	Leu	Ser	Tyr	Pro	Arg	Thr
305					310					315					320
Gly	Ser	Arg	Tyr	Leu	Ser	Asp	Asp	Val	Phe	Asp	Glu	Ile	Pro	Asp	Arg
				325					330					335	
Ile	Ala	Leu	Leu	Glu	Arg	Tyr	Pro	Ala	Phe	Ala	Ala	His	Ala	Ala	Ala
			340					345					350		
Leu	Lys	Gly	Ala	Ser	Leu	Asn	Arg	Ser	Val	Asp	Ala	Gly	Lys	Val	
			355				360					365			
Thr	Asp	His	His	Ala	Leu	Ile	Ile	Thr	Glu	Cys	Leu	Pro	Gly	Glu	Leu
	370					375					380				
Ser	Ala	Asp	Glu	Arg	Thr	Val	Tyr	Asp	Met	Val	Ala	Ala	Arg	Leu	Leu

385														390				395				400
Glu	Ala	Phe	Ser	Ala	Arg	Cys	Leu	Lys	Asp	Ala	Thr	Thr	Val	Ser	Phe							
				405					410					415								
Thr	Ala	Gly	Asn	Ser	Val	Phe	Thr	Ala	Lys	Gly	Thr	Val	Val	Arg	Ser							
				420					425					430								
Ala	Gly	Trp	Arg	Ala	Val	Arg	Asn	Glu	Arg	Glu	Glu	Asp	Asp	Glu	Gly							
				435					440					445								
Thr	Ala	Ala	Leu	Pro	Thr	Met	Gln	Thr	Asp	Glu	Ala	Phe	Pro	Leu	Gln							
				450					455					460								
Ser	Ala	Glu	Cys	Val	Glu	Lys	Gln	Thr	Lys	Pro	Arg	Pro	Leu	His	Thr							
465					470					475					480							
Glu	Ser	Ser	Leu	Leu	Ser	Ala	Met	Glu	His	Cys	Gly	Arg	Glu	Leu	Gln							
				485					490					495								
Asp	Asp	Glu	Leu	Arg	Asp	Ser	Leu	Lys	Gly	Asn	Gly	Ile	Gly	Thr	Pro							
				500					505					510								
Ala	Thr	Arg	Ala	Tyr	Ile	Ile	Glu	Thr	Leu	Tyr	Ala	Arg	Asp	Tyr	Val							
				515					520					525								
Arg	Pro	Glu	Lys	Lys	Glu	Leu	Val	Pro	Thr	Asp	Lys	Glu	Leu	Ala	Cys							
				530					535					540								
Ile	Lys																					
545																						

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<210> 10270
<211> 517
<212> PRT
<213> B.fragilis
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<400> 10270															
Phe	Phe	Gln	Ile	Met	Asp	Glu	Gln	Pro	Asp	Ser	Ser	Gln	Gln	Leu	Met
1				5					10					15	
Asp	Ile	Leu	Leu	Val	Met	Asp	Glu	Lys	Gly	Thr	Leu	Gln	Ala	Val	Ser
			20					25					30		
Gly	Val	Lys	Asp	Gly	Glu	Leu	Gln	Thr	Lys	Asn	Pro	Leu	Glu	Asp	Asn
		35					40					45			
Asn	Asp	Leu	Leu	Arg	Val	Asp	Arg	His	Gly	Asp	Met	Phe	Ser	Asn	Phe
	50					55					60				
Phe	Ser	Asn	Leu	Trp	Ser	Gln	Leu	Lys	Asp	Pro	Thr	Arg	Phe	His	Phe
65					70					75					80
Phe	Arg	Val	Pro	Glu	Glu	Gln	Val	Gln	Arg	Val	Pro	Ala	Asp	Phe	Arg
				85					90					95	
Gln	Arg	Glu	Ser	Arg	Ser	Val	Lys	Thr	Gly	Glu	Pro	Leu	Leu	Ala	Gln
			100					105						110	
Tyr	Glu	Val	Gln	Pro	Pro	Val	Gln	Ala	Gln	Gln	Gln	Thr	Gln	Ala	Gly
		115					120					125			
Gln	Gln	Gln	Gln	Pro	Glu	Asp	Ala	Pro	Gln	Gln	Ser	Ala	Gly	Gln	Thr
		130				135					140				
Glu	Gln	Asn	Pro	Gln	Tyr	Lys	Tyr	Arg	Pro	Glu	Asp	Ile	Asp	Trp	Asn
145					150					155					160
Ser	Leu	Ala	Ala	Leu	Gly	Val	Gln	Arg	Glu	Gln	Ile	Glu	Gly	Asn	Gly
				165					170					175	
Met	Leu	Asp	Gln	Met	Leu	Arg	Gly	Phe	Gln	Thr	Asp	Lys	Thr	Val	Arg
			180					185					190		
Val	His	Phe	His	Phe	Glu	Gly	Ile	Ser	His	Ser	Asn	Asp	Ser	Gln	Leu
		195					200					205			
Ser	Leu	Lys	Pro	Gly	Thr	Asp	Gly	Arg	Leu	Thr	Val	Cys	Ser	Leu	Gly
	210					215					220				
Ile	Leu	Asp	Pro	Glu	Lys	Met	Gln	Lys	Gln	Phe	Phe	Gly	Tyr	Asp	Ile
225					230					235					240
Thr	Asp	Ser	Asp	Lys	Gln	Val	Leu	Arg	Gln	Thr	Gly	Tyr	Met	Gly	His

245 250 255  
 Pro Ala Thr Arg His Gln Pro Gly Gly Arg Ala Gly Arg Ser Pro Cys  
 260 265 270  
 Gln Pro Gln Leu Gln Asp Gln Arg Ala Gly Arg Phe Pro Ala Leu Gln  
 275 280 285  
 Gly Gln Tyr Pro Gly Gly Glu Glu Arg Ala Tyr Leu His Pro Gly Arg  
 290 295 300  
 Asn Ser Pro Ala Gln Thr Gly Arg Gly Gly Gly Leu Pro Val Pro Phe  
 305 310 315 320  
 Gln Ser Gln Gly Gly Gly Ala Thr Gln Asp Leu Pro Gly Ser Arg Thr  
 325 330 335  
 Val Gln Arg Ser Gln Asp Ala Ala Arg Ile Ser Leu Arg Arg Pro Gly  
 340 345 350  
 Gln Ala Gly Asp Gly Cys Val Gln Asp Glu Pro Glu Thr Asp Arg Gln  
 355 360 365  
 Ser Gly Gly Ala Glu Asp Phe Pro Gln Ala Gly Ala Tyr Arg Glu Val  
 370 375 380  
 Ser Pro Arg Thr Arg Ser Arg Gly Asn Gly Gln Gly Leu Arg Ser Gly  
 385 390 395 400  
 Gly Gln Glu Arg Lys Ser Leu Pro Arg Leu His His Met Glu Ala Arg  
 405 410 415  
 Arg Glu Ala Arg Leu His Val Ser Gln Gly Leu Gln Gly Gly Thr Arg  
 420 425 430  
 Arg Gly Ala Cys Gln Ala Arg Arg Gly Glu Arg Gly Ala Gly Gly Gly  
 435 440 445  
 Gln Phe Arg Gly Gln Asp Arg Arg Gly Asp Pro Gln Pro Glu Arg Ser  
 450 455 460  
 Pro Ala Ile Arg Thr Ala Ala Pro His Arg Gly Ala Glu Thr Ala Ala  
 465 470 475 480  
 Gly Ala Gln Ala Gly Ala Glu Arg Gly Thr Glu Thr Val Thr Glu Ala  
 485 490 495  
 Gly Thr Ala Arg Gln Ala Gln Ala Gln Pro Gly Cys Pro Pro Leu Ile  
 500 505 510  
 Ser Pro Ala Thr Leu  
 515

<210> 10271  
 <211> 165  
 <212> PRT  
 <213> B.fragilis

<400> 10271  
 Lys His Ile Val Met Lys Gln Ile Thr Leu His Val Tyr Gln Ser Ile  
 1 5 10 15  
 Asp Gly Cys Pro Val Ile Ala Asp Lys Cys Phe Asn Ala Val Val Asp  
 20 25 30  
 Ala Cys Ala Tyr Val Leu Ile Asp Glu Glu Thr Tyr Leu Arg Ile Tyr  
 35 40 45  
 Leu Asn Asp Leu Asp Trp Pro Leu Glu Ala Lys Glu Thr Leu Val Val  
 50 55 60  
 Thr Asn Gly Cys Ile Asp Leu Thr Glu Thr Glu Arg Val Arg Phe Val  
 65 70 75 80  
 Arg Gly Asn Val Val Thr Glu Leu Gln Arg Ile Lys Glu Asn Gly Asp  
 85 90 95  
 Gly Met Val Val Ala Tyr Gly Gly Glu Thr Gly Val Leu Leu Leu Asp  
 100 105 110  
 Asn Gly Leu Ala Asp Glu Ile Val Met Thr Thr Val Pro Val Leu Val  
 115 120 125  
 Gly Asn Ser Glu Lys Gly Leu Glu Cys Gly Pro Asn Asp Gly Arg Ile



130 135 140  
 Trp Ala Val Arg Ser Ser Glu Val Leu Glu Asp Gly Lys Ile Arg Thr  
 145 150 155 160  
 Val Tyr Gly Arg Met  
 165

<210> 10272  
 <211> 69  
 <212> PRT  
 <213> B.fragilis

<400> 10272  
 His Met Ser Val Val Glu Ser Ile Asn Phe Gln Phe Ala Gln Asn Met  
 1 5 10 15  
 Thr Phe Gln Asn Pro Val Val Glu Asp His Ile Asn Glu Ile Lys Phe  
 20 25 30  
 Val Thr Asp Lys Asp Ser Phe Leu Ser Gly Phe Glu Thr Glu Ala Val  
 35 40 45  
 Ser Glu Phe Asp Asn Glu Val Ser Gln Met Val Glu Gln Lys Cys Phe  
 50 55 60  
 Glu Phe Leu Leu Leu  
 65

<210> 10273  
 <211> 163  
 <212> PRT  
 <213> B.fragilis

<400> 10273  
 Val Met Asn Thr Leu Thr Ser Gln Ile Glu Gln Leu Gln Ser Leu Ala  
 1 5 10 15  
 His Glu Leu Leu Tyr Leu Gly Val Asp Gly Ala Pro Ile Tyr Thr Asp  
 20 25 30  
 His Phe Arg Gln Leu Asn Lys Glu Val Leu Glu Gln Ser Asp Ala Leu  
 35 40 45  
 Tyr Pro Gln Arg Gly Ala Thr Ser Glu Glu Glu Ala Asn Ile Cys Leu  
 50 55 60  
 Ala Leu Leu Met Gly Tyr Asn Ala Thr Ile Tyr Asn Gln Gly Asp Lys  
 65 70 75 80  
 Glu Glu Lys Lys Gln Val Val Leu Asn Arg Trp Trp Asp Val Leu Asp  
 85 90 95  
 Gln Thr Ser Gly Thr Leu Leu Lys Cys Gln Leu Val Thr Tyr Cys Tyr  
 100 105 110  
 Gly Gly Gly Val Glu Glu Glu Leu Gly Lys Glu Gly Pro Ser Phe Ile  
 115 120 125  
 Lys Lys Val Glu Arg Ile Arg Asn Phe Leu Lys Ile Lys Lys Arg Gln  
 130 135 140  
 Leu Ile Ile Leu Arg Lys Leu Gly Lys Lys Ile Leu Phe Ser Met Gly  
 145 150 155 160  
 Lys Gly Lys

<210> 10274  
 <211> 174  
 <212> PRT  
 <213> B.fragilis

<400> 10274  
 Met Ser Glu Gln Gln Lys Tyr Trp Phe Ala Ala Arg Thr Arg Asp Lys

6093  
 10272  
 10273  
 10274

1	5	10	15
Gln Glu Phe Ala Ile Arg Asp Ser Leu Glu Lys Leu Lys Thr Glu Leu			
20	25	30	
Asp Leu Asn Tyr Tyr Leu Pro Thr Gln Phe Val Ile Arg Gln Leu Lys			
35	40	45	
Tyr Arg Arg Lys Arg Val Glu Val Pro Val Ile Lys Asn Leu Ile Phe			
50	55	60	
Ile Gln Ala Thr Lys Gln Asp Ala Cys Asp Ile Ser Asn Lys Tyr Asn			
65	70	75	80
Ile Gln Leu Phe Phe Pro Lys Asp Leu Leu Thr Arg Ala Met Leu Ile			
85	90	95	
Val Pro Asp Lys Gln Met Gln Asp Phe Ile Phe Val Met Asp Leu Asp			
100	105	110	
Pro Asn Gly Val Ser Phe Asp Asn Asp His Leu Ser Val Gly Ser Arg			
115	120	125	
Val Gln Val Val Lys Gly Asp Phe Cys Gly Val Glu Gly Glu Leu Ala			
130	135	140	
Ser Glu Ala Asn Lys Thr Tyr Val Val Ile Arg Ile Ala Gly Val Leu			
145	150	155	160
Ser Ala Ser Val Lys Val Pro Lys Ser Tyr Leu Arg Val Ile			
165	170		

<210> 10275  
 <211> 122  
 <212> PRT  
 <213> B.fragilis

<400> 10275
His Tyr Gly Arg Lys Lys Val Val Ile Ser Leu Asn Asp Asn Leu Val
1 5 10 15
Thr Ile Glu Val Asn Gly Lys Val Ile Phe Ala Gly Lys Ala Asp Leu
20 25 30
Gln Phe Ser Leu Asn Gln Lys Val Arg Glu Pro Leu Arg Ile Thr Lys
35 40 45
Gly Lys Gly Lys Leu Met Glu Ala Leu Thr Glu Ser Phe Ile Lys Gly
50 55 60
Gly Ile Asn Ser Met Glu Asn Arg Pro Ile Glu Glu Leu Gln Glu Thr
65 70 75 80
Ile Lys Glu Tyr Leu Thr Phe Glu Tyr Gln Arg Lys Gly Ile Ala Thr
85 90 95
Glu Pro Asn Lys Arg Ser Phe Leu Ser Glu Leu Lys Lys Tyr Ala Arg
100 105 110
Ala Phe Arg Lys Lys Arg Asp Glu Ser Glu
115 120

<210> 10276  
 <211> 308  
 <212> PRT  
 <213> B.fragilis

<400> 10276
Thr Ser Leu Leu Thr Gln Lys Ala Ile Leu Met Lys Lys Thr Ile
1 5 10 15
Phe Leu Ile Leu Cys Ile Leu Cys Ser Leu Gly Ala Met Ala Gln Lys
20 25 30
Lys Ser Ile Thr Gly Val Val Thr Asp Ala Ser Gly Glu Ser Val Ile
35 40 45
Gly Ala Ser Val Val Glu Val Gly Thr Thr Asn Gly Val Ile Thr Asp
50 55 60

Ile Ser Gly Lys Phe Thr Leu Met Val Asp Pro Asn Gly Lys Ile Lys  
 65 70 75 80  
 Val Ser Tyr Val Gly Tyr Gln Pro Gln Val Leu Asp Val Lys Gly Lys  
 85 90 95  
 Asn Ser Phe Asn Ile Lys Leu Lys Glu Asp Ser Glu Met Leu Asp Glu  
 100 105 110  
 Val Val Val Thr Gly Tyr Gly Gly Lys Gln Leu Arg Thr Lys Val Thr  
 115 120 125  
 Asn Ser Ile Gly Lys Val Lys Glu Asp Val Leu Gln Lys Gly Leu Phe  
 130 135 140  
 Ser Asn Pro Ala Gln Ala Leu Ser Gly Ala Val Ser Gly Val Arg Val  
 145 150 155 160  
 Leu Gln Thr Ser Gly Asp Pro Gly Ala Thr Pro Thr Ile Ile Leu Arg  
 165 170 175  
 Gly Gly Thr Asp Tyr Asn Gly Thr Gly Ser Pro Leu Val Leu Val Asp  
 180 185 190  
 Gly Gln Val Arg Gly Ser Leu Ser Asp Ile Asn Pro Glu Asp Ile Glu  
 195 200 205  
 Ser Met Glu Val Leu Lys Asp Ala Gly Ala Thr Ala Ile Tyr Gly Ala  
 210 215 220  
 Arg Ala Asn Asn Gly Val Ile Leu Val Thr Thr Lys Arg Gly Lys Glu  
 225 230 235 240  
 Gly Lys Gly Glu Val Ser Val Lys Ala Lys Val Gly Ile Asn Tyr Tyr  
 245 250 255  
 Asn Asn Pro Tyr Glu Phe Met Asn Ala Arg Asp Tyr Ile Tyr Trp Met  
 260 265 270  
 Arg Thr Ala Tyr Gln Arg Ser Gly Gln Ile Tyr Lys Asp Ser Lys Gly  
 275 280 285  
 Asn Trp Val Gly Thr Ala Asp Met Asn Ser Leu Asn Asn Ala Thr Ser  
 290 295 300  
 Leu Trp Tyr Gly  
 305

&lt;210&gt; 10277

&lt;211&gt; 268

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10277

Asn Ser Asn Lys Leu Val His Pro Asp Val His Phe Val Phe Pro Val  
 1 5 10 15  
 Val Lys Asn Gly Arg Ser Asp Asp Tyr Ile Val Glu Trp Arg Lys Leu  
 20 25 30  
 Val Leu Asn Asn Pro Tyr Phe Thr Ile Asn His Trp Leu Asn Glu Ile  
 35 40 45  
 Asn Ala Glu Asn Ala Gln Ala Val Ile Tyr Thr Lys Glu Ser Asp Glu  
 50 55 60  
 Ile Met Lys Lys Leu Ser Leu Lys Ser Ser Glu Gly Gly Phe Lys Ile  
 65 70 75 80  
 Thr Leu Leu Trp Leu Pro Glu Lys Met Gln Gln Ala Cys Ala Asn Lys  
 85 90 95  
 Leu Leu Lys Leu Leu Glu Glu Pro Pro Glu Lys Thr Ile Phe Leu Leu  
 100 105 110  
 Val Ser Glu Ala Pro Asp Leu Ile Leu Gln Thr Ile Leu Ser Arg Thr  
 115 120 125  
 Gln Arg Phe Asn Leu Arg Lys Ile Glu Glu Glu Cys Met Ala Glu Ala  
 130 135 140  
 Leu Gln Ser Lys Tyr Gly Val Gln Gln Ala Thr Ser Ile Ser Ile Ala  
 145 150 155 160

His Leu Ala Asn Gly Asn Phe Ile Lys Ala Leu Glu Thr Ile His Leu  
                           165                          170                          175  
 Asn Glu Glu Asn Gln Leu Phe Phe Glu Leu Phe Val Ser Leu Met Arg  
                           180                          185                          190  
 Leu Ser Tyr Gln Arg Lys Ile Arg Glu Met Lys Leu Trp Ser Glu Gln  
                           195                          200                          205  
 Val Ala Gly Met Gly Arg Glu Arg Gln Lys Asn Phe Leu Glu Tyr Cys  
                           210                          215                          220  
 His Lys Glu Arg Phe Lys Ser Leu Pro Gly Arg Pro Val Asn Asp Phe  
                           225                          230                          235                          240  
 Arg Asn Tyr Met Thr Leu Glu Glu Gln Asn Phe Ala Thr Arg Phe Ala  
                           245                          250                          255  
 Val Phe Thr Thr Gly Leu Gly Gly Ser Thr Leu Val  
                           260                          265

<210> 10278  
 <211> 73  
 <212> PRT  
 <213> B.fragilis

<400> 10278  
 Leu Lys Ile Ala Ile Lys Ser Ile Lys Val Cys Ser Phe Val Tyr Ser  
 1                          5                          10                          15  
 Phe Arg Arg Lys Leu Asn Arg Arg Lys Ile Arg Gln Phe Ser Leu Ala  
                           20                          25                          30  
 Ala Gln Tyr Leu Lys Ile Gly Asn Met Pro Ile Met Leu Tyr Tyr Pro  
                           35                          40                          45  
 Phe Gln Lys Gly Leu Ile Ile His Ala Arg Asn Gly Asn Ser Tyr His  
                           50                          55                          60  
 Gly Thr Lys Ser Val Ala Tyr Phe Ile  
 65                          70

<210> 10279  
 <211> 559  
 <212> PRT  
 <213> B.fragilis

<400> 10279  
 Ile Met Lys Ala Lys Lys Tyr Asn Trp Thr Leu Arg His Ser Phe Leu  
 1                          5                          10                          15  
 Leu Phe Leu Val Ile Phe Ile Ser Ser Cys Val Glu Asp Val Thr  
                           20                          25                          30  
 Glu Ser Thr Lys Glu Pro Thr Arg Tyr Thr Ala Asn Asp Ile Lys Ser  
                           35                          40                          45  
 Tyr Ser Asp Leu Phe Asp Val Phe Trp Asn Thr Met Asn Gln Lys Tyr  
                           50                          55                          60  
 Asn Tyr Phe Tyr Glu Gln Ser Ser Phe Asn Trp Glu Thr Val Tyr Asn  
 65                          70                          75                          80  
 Glu Tyr Ala Pro Lys Phe Lys Lys Leu Lys Thr Phe Asn Arg Asp Lys  
                           85                          90                          95  
 Gln Tyr Ser Lys Ala Glu Ile Ser Glu Asp Cys Asn Lys Ala Ile Glu  
                           100                          105                          110  
 Tyr Phe Thr Glu Ile Ile Asp Pro Ile Ile Asp Arg His Phe Tyr Val  
                           115                          120                          125  
 Lys Ile Ser Leu Pro Val Ser His Ser Phe Ile Arg Asn Val Tyr Phe  
                           130                          135                          140  
 His Gly Gly Met Lys Ser Lys Glu Lys Ile Tyr Thr Tyr Pro Phe Glu  
 145                          150                          155                          160  
 Leu Lys Tyr Glu Tyr Met Arg Ser Lys Ile Gln Ser Glu Thr Gly Val

10278  
 10279  
 10280  
 10281  
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 10287  
 10288  
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 10298  
 10299  
 10300

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<210> 10280
<211> 171
<212> PRT
<213> B.fragilis
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<400> 10280
Cys Phe Asn Phe Met Lys Lys Gly Ile Leu Phe Ile Ala Leu Phe Ala
1          5          10          15
Ala Ser Phe Gly Phe Met Gln Ser Ser Phe Ala Ala Pro Ser Met Ser
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			20			25						30					
Ala	Asn	Ser	Ile	Thr	Asn	Val	Leu	Ala	Ile	Ser	Asp	Tyr	Glu	Gly	Thr		
			35			40						45					
Tyr	Ser	Gly	Thr	Met	Asp	Asn	Ile	Ile	Met	Arg	Gly	Lys	Pro	Tyr	Glu		
			50			55						60					
Ser	Arg	Ala	Ala	Thr	Tyr	Lys	Ile	Glu	Gly	Gly	Arg	Leu	Lys	Cys	Asp		
			65			70						75			80		
Phe	Pro	Gln	Ile	Gly	Ser	Met	Pro	Gly	Thr	Ile	Thr	Ile	Ser	Leu	Ala		
			85						90						95		
Val	Glu	Val	Asp	Glu	Glu	Thr	Gly	Glu	Ile	Thr	Ala	Tyr	Asn	Gly	Asp		
			100						105						110		
Glu	Ala	Gly	Thr	Leu	Ser	Leu	Pro	Leu	Gly	Ile	Lys	Val	Lys	Leu	Tyr		
			115						120						125		
Leu	Asp	Asp	Leu	Arg	Asp	Ala	Lys	Ile	Thr	Asp	Asn	Gly	Ser	Ser	Lys		
			130			135						140					
Gln	Ile	Glu	Phe	Thr	Leu	Asp	Val	Ser	Gly	Thr	Phe	Leu	Gly	Ala	Asn		
			145			150						155			160		
Phe	Pro	Ala	Ser	Val	His	Phe	Val	Gly	Thr	Lys							
			165						170								

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<210> 10281
<211> 84
<212> PRT
<213> B.fragilis
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<400> 10281

[illegible]

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<210> 10282
<211> 498
<212> PRT
<213> B.fragilis
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<400> 10282

Arg	Arg	Met	Lys	Arg	Val	Thr	Thr	Ile	Leu	Phe	Leu	Met	Leu	Leu	Ile
1				5					10					15	
Cys	Val	His	Thr	Ala	Ala	Gln	Gln	Lys	Val	Lys	Leu	Glu	Val	Leu	Glu
			20					25					30		
Lys	Gly	Thr	Glu	Gln	Pro	Ile	Ile	Ala	Ala	Asn	Val	Ile	Tyr	Ala	Asp
		35					40					45			
Asn	Glu	Ala	Leu	Arg	Asn	Pro	Gln	Tyr	Ala	Ile	Thr	Asn	Thr	Ser	Gly
	50					55					60				
Gln	Ala	Glu	Leu	Lys	Leu	Pro	Ser	Lys	Gly	Ile	Cys	Tyr	Tyr	Lys	Val
65					70				75					80	
Thr	Tyr	Ile	Gly	Tyr	Val	Pro	Val	Thr	Gly	Lys	Ile	Gly	Gly	Thr	Gln
			85						90					95	
Asp	Glu	Lys	Val	Ile	Tyr	Met	Lys	Glu	Asp	Asp	Leu	Gly	Ile	Asn	Glu
			100					105					110		

Val Val Val Thr Gly Ser Arg Thr Ala Arg Pro Ile Lys Met Ser Pro  
 115 120 125  
 Val Thr Thr Gln Val Leu Gly Gly Lys Ala Leu Val Asp Ala Gly Tyr  
 130 135 140  
 Ser Asn Leu Gln Gln Ala Leu Gln Gln Glu Thr Pro Gly Leu Asn Ile  
 145 150 155 160  
 Gln Lys Val Gly Phe Gly Asn Glu Ile Ser Met Gln Gly Leu Asp Ala  
 165 170 175  
 Arg His Val Leu Phe Leu Met Asp Gly Glu Arg Met Thr Gly Asp Met  
 180 185 190  
 Ala Gly Asn Leu Asp Tyr Glu Arg Phe Asn Leu His Ala Ile Asp Arg  
 195 200 205  
 Val Glu Ile Val Lys Gly Ala Ser Ser Thr Leu Tyr Gly Ser Arg Ala  
 210 215 220  
 Ala Gly Ala Val Ile Asn Leu Ile Thr Lys Lys Thr Asp Lys Pro Leu  
 225 230 235 240  
 Ser Ile Asp Ala Gly Ile Arg Tyr Gly Gln Met Asn Glu Arg Asn Tyr  
 245 250 255  
 Lys His Pro Gln Pro Lys Asp Phe Leu Tyr Met Phe Glu Gln Asn Ala  
 260 265 270  
 Asp Arg Pro Asn Leu Gln Ser Trp Val Ser Ala Gly Phe Lys Ala Gly  
 275 280 285  
 Lys Phe Thr Ser Gln Thr Asp Val Trp Tyr Ser Glu Ser Asp Ala Phe  
 290 295 300  
 Tyr Met Tyr Gln Ala Glu Asn Asp Lys Lys Val Tyr Thr Lys Glu Ala  
 305 310 315 320  
 Asn Pro Phe Leu Pro His Asp Ile Thr Val Val Ser Asn Ala Val Arg  
 325 330 335  
 Pro Pro Met Gly Ile Glu Gly Lys Glu His Ile Thr Val Ser Gln Lys  
 340 345 350  
 Leu Tyr Tyr Asn Pro Asn Pro Asn Leu Ser Val Leu Val Tyr Gly Ser  
 355 360 365  
 Ser Phe Phe Met Asn Thr Tyr Asp Leu Ile Gln Asp Met Met Phe Ser  
 370 375 380  
 Gln Ala Arg Asp Leu Thr Ala Gly Thr Lys Val Thr Tyr His Val Lys  
 385 390 395 400  
 Asp Trp Phe Ser Val Thr Gly Ser Leu His Ala Asp Phe Tyr Asp Arg  
 405 410 415  
 Phe Lys Arg His Glu Arg Ile Asp Lys Arg Gln Lys Asp Tyr Glu Ser  
 420 425 430  
 Ser Ile Tyr Gln Pro Arg Leu Thr Val Thr Ser Asn Tyr Phe Asn Gly  
 435 440 445  
 His Ser Leu Ile Leu Gly Met Glu His Thr Ser Asp Glu Leu Thr Ser  
 450 455 460  
 Asp Arg Phe Ser Gly Asn Ala Asn His Asp Leu Lys Thr Arg Ala Leu  
 465 470 475 480  
 Lys Glu Thr Glu Tyr Phe Leu Ser Ser Leu Met Ala Glu Arg Pro Ser  
 485 490 495  
 Phe Pro

<210> 10283  
 <211> 60  
 <212> PRT  
 <213> B.fragilis

<400> 10283  
 Arg Pro Phe Asp Lys Leu Glu Arg Leu Ser Ser Ser Pro Val Val Lys  
 1 5 10 15

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<210> 10284
<211> 65
<212> PRT
<213> B.fragilis
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[illegible]

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<210> 10285
<211> 931
<212> PRT
<213> B.fragilis
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Phe	Cys	Val	Cys	Leu	Val	Phe	Phe	Gly	Met	Asn	Ile	Arg	Met	Asn	Ile
1				5					10					15	
Leu	Leu	Cys	Phe	Leu	Trp	Leu	Phe	Ser	Ala	Thr	Leu	Ser	Ala	Gln	Gln
			20					25					30		
Val	Lys	Ile	Val	Lys	Gly	His	Val	Cys	Val	Leu	Ser	Glu	Asp	Ser	Ile
		35					40					45			
Glu	Arg	Ser	Leu	Pro	Tyr	Ala	Ser	Val	Val	Val	Leu	Glu	Gly	Lys	Asp
	50					55					60				
Ser	Ala	Phe	Val	Lys	Gly	Met	Ala	Ser	Asp	Ala	Asn	Gly	Ser	Phe	Lys
65				70					75					80	
Leu	Glu	Phe	Ile	Pro	Gln	Lys	Arg	Met	Glu	Tyr	Leu	Leu	Arg	Ile	Ser
			85					90						95	
Tyr	Ile	Gly	Met	Ser	Thr	Ile	Phe	Arg	Lys	Leu	Asp	Pro	His	Met	Met
		100						105					110		
Asp	Ile	Asp	Cys	Gly	His	Ile	Leu	Met	Glu	Ser	Gly	Ile	Lys	Leu	Ala
		115					120					125			
Glu	Val	Leu	Val	Thr	Ala	Pro	Val	Lys	Glu	Ile	Asp	Met	Ala	Gly	Asp
	130					135					140				
Thr	Thr	Val	Ile	Asn	Ala	Asp	Ala	Tyr	Arg	Thr	Pro	Glu	Gly	Ser	Asn
145				150					155					160	
Leu	Glu	Glu	Leu	Val	Arg	Lys	Ile	Pro	Gly	Leu	Glu	Tyr	Asp	Asp	Arg
			165					170						175	
Ser	Lys	Ser	Leu	Ser	Tyr	Asn	Gly	Leu	Val	Ile	Ser	Glu	Ile	Asn	Val
		180						185					190		
Asn	Gly	Glu	Ala	Phe	Phe	Ser	Gly	Asn	His	Val	Leu	Ala	Leu	Glu	Asn
		195					200					205			
Leu	Pro	Ala	Asp	Leu	Ile	Ser	Arg	Ile	Lys	Val	Tyr	Asp	Lys	Arg	Ser
	210					215					220				
Glu	Met	Glu	Lys	Phe	Thr	Gly	Val	Arg	Thr	Val	Asp	Glu	Asn	Tyr	Val



225		230		235		240
Leu Asp Leu Gln Thr	Lys Lys Glu Leu Asn Gly Thr	Leu Ile Thr Ser				
	245		250		255	
Val Ala Val Gly Lys Gly Asn Lys Lys Lys Lys Glu Ala Glu Leu Ile			265		270	
	260					
Ser Asn Phe Phe Lys Ala Asp Gly Glu Asn Leu Ser Val Ile Ala Lys		280		285		
	275					
Ser Gly Asn Arg Asp Ile Thr Thr Glu Asn Lys Lys Asn Arg Gln Asp		295		300		
	290					
Asn Ile Ala Val Asn Phe Leu Lys Lys Phe Gly Glu Thr Val His Ile		310		315		320
305						
Asn Gly Asn Ile Met Tyr Asn Asn Ala Ile Asn Gly Ile Asn Gly Thr		325		330		335
Ser Tyr Tyr Glu Gln Tyr Leu Met Thr Gly Asn Arg Tyr Arg Tyr Ala		340		345		350
Thr Asp Asn Gly Tyr His Thr Asn Arg Met Ile Ser Ala Met Leu Ser		355		360		365
Ala Arg Trp Asn Ile Asp Lys Lys Thr Leu Leu Asn Ile Ser Gly Ser		370		375		380
Phe Asn Ala Leu Lys Gly Ile Asn Asp Asp Ser Asn Arg Gln Ala Thr		385		390		395
Tyr Asn Ala Asp Pro Lys Leu Asp Val Thr Ser Pro Phe Asn Arg Asp		405		410		415
Ala Ser Glu Gln Ile Glu Asp Ser Ile Arg Val Asn Asp Ile Cys Met		420		425		430
Thr Ser Arg Ser Ser Ser Ile Asn Arg Leu Tyr Ser Ile Gly Ala Asp		435		440		445
Ile Thr Arg Arg Leu Asn Ala Lys Gly Thr Ser Leu Gly Leu Thr Val		450		455		460
Gln Tyr Ser Glu Glu Arg Gly Asn Asn Lys Ala Phe Ser Leu Ser Ser		465		470		475
Thr Thr Tyr Tyr Gln Leu Gln Asn Val Lys Gly Asn Asp Ser Ile Leu		485		490		495
Tyr Arg Asn Gln Tyr Gln Glu Ser Pro Asn Arg Asn Arg Thr Ile Lys		500		505		510
Leu Gly Leu Ile Leu Thr Gln Ile Leu Arg Lys Asn Leu Arg Ala Gln		515		520		525
Leu Ser Tyr Ile Phe Lys Leu Asp Asn Gln Ser Arg Asp Arg Asn Thr		530		535		540
Tyr Val Leu Ser Pro Val Val Asp Gly Glu Glu His Thr Pro Thr Gly		545		550		555
Asn Phe Pro Lys Gly Tyr Glu Val Glu Tyr Thr Asp Ser Leu Ser Asn		565		570		575
Lys Ser Arg Ser His Thr Met Ala His Gly Val Ser Leu Asn Leu Asn		580		585		590
Tyr Thr Asp Lys Thr Trp Glu Ile Thr Thr Gly Leu Ser Val Thr Pro		595		600		605
Lys Arg Gln Thr Leu Gly Gln Lys Thr Gly Trp Thr Gln Ala Asp Thr		610		615		620
Leu Arg Tyr Ser Val Asn Tyr His Pro Thr Leu Thr Ile Leu Trp Arg		625		630		635
Lys Arg Lys Thr Trp Val Gln Leu Ser Tyr Glu Gly Asn Thr Gln Gln		645		650		655
Pro Gly Leu Ala Glu Leu Leu Thr Leu Thr Asp Asn Ser Asp Pro Leu		660		665		670
Asn Ile Ile Arg Gly Asn Pro Asp Leu Lys Ser Ser Tyr Thr Gln Lys		675		680		685
Val Arg Leu Glu Val Arg Asp Thr Lys Thr Gly Leu Ser Gly Asp Val		690		695		700

Asn Trp Thr Ser Met Leu Asn Asn Val Thr Arg Ala Val Ile Tyr Asp  
 705 710 715 720  
 Ser Gln Thr Gly Gly Ile Glu Ser Arg Pro Val Asn Val Asn Gly Asn  
 725 730 735  
 Trp Asn Ile Lys Ala Ala Met Arg Tyr Gln Lys Arg Ile Asn His Tyr  
 740 745 750  
 Phe Asn Leu Ser Ala Arg Thr Gly Thr Ser Phe Ile Gln Ser Val Ser  
 755 760 765  
 Leu Val Asn Asp Gly Gln Arg Glu Gln Pro Glu Arg Ser Val Thr His  
 770 775 780  
 Asn Arg Leu Tyr Asn Ala Gly Leu Arg Val Gly Tyr Gln Pro Lys Trp  
 785 790 795 800  
 Gly Gly Phe Asp Leu Ser Gly Asp Trp Arg Phe Arg His Ser Thr Asn  
 805 810 815  
 Leu Leu Arg Glu Thr Asn Asn Tyr Ile Arg Asp Tyr Ser Phe Gly Leu  
 820 825 830  
 Thr Ala Tyr Ala Val Phe Pro Gly Asn Ile Arg Leu Lys Ser Glu Thr  
 835 840 845  
 Thr His Thr Phe Arg Asn Gly Thr Asn Ile Asn Arg Ser Glu Asp Asn  
 850 855 860  
 Glu Val Val Trp Asn Leu His Leu Ser Trp Ser Phe Leu Lys Tyr Lys  
 865 870 875 880  
 Lys Ala Glu Phe Ser Val Tyr Trp Ala Asp Ile Leu Ser Gln Lys Lys  
 885 890 895  
 Ser Tyr Ser Arg Asn Val Thr Ser His Gly Leu Ser Glu Arg Tyr Thr  
 900 905 910  
 Gln Gln Ile Gly Ser Tyr Phe Ile Val Ser Phe Lys Tyr Arg Phe Asn  
 915 920 925  
 Arg Gln Leu  
 930

&lt;210&gt; 10286

&lt;211&gt; 278

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10286

Ile Asn Leu Leu Leu Glu Ala Lys Gln Tyr Cys Ile Asp Leu Val Tyr  
 1 5 10 15  
 Tyr Asn Gly Leu Lys Lys Glu Leu Lys Val Arg Leu Arg His Ala Gln  
 20 25 30  
 Ala Ile Ala Asp Ala Tyr Arg Gln Arg Leu Asp Arg Gly Asp Ala Ser  
 35 40 45  
 Ile Leu Glu Tyr Asn Lys Val Gln Leu Asn Leu Ser Thr Val Gln Gly  
 50 55 60  
 Glu Met Ser Arg Ile Glu Val Glu Arg Asn Ala Leu Leu Ser Glu Leu  
 65 70 75 80  
 Lys Arg Leu Asn Gly Gly Met Asp Val Ile Phe Glu Ala Ser Asn Tyr  
 85 90 95  
 Ser Pro Ala Ser Leu Pro Val Asn Phe Glu Asp Trp Tyr Leu Ser Ala  
 100 105 110  
 Gln Gln Lys Asn Pro Leu Leu Gln Tyr Val Lys Gln Gln Ile Glu Val  
 115 120 125  
 Ser Lys Glu Gln Val Lys Leu Gly Lys Ala Met Thr Leu Pro Lys Phe  
 130 135 140  
 Ser Ala Gly Tyr Ser Leu Glu Arg Thr Leu Gly Gln Lys Tyr Gln Gly  
 145 150 155 160  
 Ile Ser Val Gly Ile Ser Ile Pro Leu Trp Glu Asn Lys Asn Arg Val  
 165 170 175

Lys Gln Ala Lys Ala Gly Val Val Ala Ala Gln Ala Arg Glu Gln Asp  
 180 185 190  
 Ser Lys Gln Gln Phe Tyr Asp Arg Leu Arg Asn Leu Tyr Met Arg Ala  
 195 200 205  
 Ser Gly Leu Gln Gln Thr Ala Ile Ala Tyr Arg Glu Ser Leu Lys Ala  
 210 215 220  
 Leu Asn Asn Thr Ala Leu Leu Met Lys Ala Leu Asp Val Gly Glu Ile  
 225 230 235 240  
 Ser Leu Leu Asn Tyr Ile Val Glu Ile Gly Leu Tyr Tyr Asp Thr Val  
 245 250 255  
 Asn Gln Thr Leu Ala Ala Glu Arg Asp Phe Glu Lys Ala Leu Ala Asp  
 260 265 270  
 Leu Ser Ala Val Glu Leu  
 275

<210> 10287  
 <211> 249  
 <212> PRT  
 <213> B.fragilis

<400> 10287

Gln Thr Ile Gly Ser Met Phe Asn Leu Asn Ile Asn Phe Met Lys Lys  
 1 5 10 15  
 Gln Leu Val Ile Phe Ile Leu Leu Gly Ile Ile Ala Ile Pro Ser Ser  
 20 25 30  
 Val Lys Ala Gln Lys Leu Lys Val Ser Leu Ser Ala Gly Leu Ser Lys  
 35 40 45  
 Ser Ile Leu Asn Ser Asp Val Ser Asn Leu Val Asn Thr Arg Tyr Asp  
 50 55 60  
 Thr Lys Thr Gly Val Ala Thr Arg Val Asn Leu Glu Tyr Asn Phe Phe  
 65 70 75 80  
 Lys Asp Phe Ile Val Gly Thr Gly Leu Gly Phe Ile Gln Lys Asn Tyr  
 85 90 95  
 Glu Tyr Lys Lys Thr Asp Asn Ile Thr Gly Thr His Thr Leu Tyr Lys  
 100 105 110  
 Asn Asn Phe Met Asp Ile Pro Leu Asn Val Gly Leu Tyr Leu Phe Asn  
 115 120 125  
 Asn Pro His Lys Glu Asn Gly Ile Trp Leu Lys Val Gln Gly Gly Val  
 130 135 140  
 Phe Tyr Glu Tyr Phe Thr Arg Met His Arg Lys Gly Glu Tyr Pro Ile  
 145 150 155 160  
 Phe Ala Gln Leu Gln Glu Asp Gly Ser Tyr Ile Lys Ala Gln Val Asn  
 165 170 175  
 Glu Thr Tyr Asp Phe Lys Arg Asn Glu Asn Asn Leu Lys Arg Asn Leu  
 180 185 190  
 Phe Gly Ile Glu Gly Thr Gly Glu Val Gly Tyr Ser Phe Asn Arg Ile  
 195 200 205  
 Asp Val Phe Ala Ser Tyr Thr Tyr Gln Tyr Gly Leu Thr Asp Ile Tyr  
 210 215 220  
 Lys Ala Lys Thr Ser Ser Asn Arg Lys Ser Lys Arg Ile Ser Asn Ile  
 225 230 235 240  
 Ile Ser Leu Gly Val Ala Tyr Lys Phe  
 245

<210> 10288  
 <211> 228  
 <212> PRT  
 <213> B.fragilis

[illegible]

<211> 475

&lt;212&gt; PRT

<213> B.fragilis

Cys	Asn	Glu	Met	Asn	Asn	Leu	Arg	Asn	Tyr	Leu	Gly	Leu	Ser	Ala	Leu
1				5					10					15	
Thr	Met	Gly	Leu	Cys	Leu	Met	Ser	Cys	Asn	Asp	Asp	Asn	Thr	Pro	Ser
			20					25					30		
Tyr	Ser	Gln	Thr	Thr	Met	Lys	Asn	Ser	Glu	Leu	Lys	Thr	Ile	Leu	Gln
		35					40					45			
Gln	Lys	Gly	Tyr	Gln	Phe	Asn	Glu	Gln	Gly	Asn	Leu	Leu	Leu	Asp	Asp
	50					55					60				
Leu	Ala	Asn	Asn	Thr	Thr	Thr	Leu	Asp	Leu	Ser	Gly	Thr	Lys	Leu	Ser
65					70					75				80	
Asn	Leu	Ser	Glu	Leu	Asp	Ile	Leu	Pro	Asn	Leu	Thr	Glu	Val	Lys	Leu
				85					90					95	
Ser	Asp	Asn	Asp	Tyr	Gly	Pro	Val	Phe	Asp	Phe	Ser	Lys	Leu	Pro	Lys
			100					105					110		
Gln	Ile	Thr	Gly	Ile	Asp	Leu	Thr	Gly	Asn	Asp	Ile	Tyr	Asp	Tyr	Asp
		115					120					125			
Asn	Leu	Val	Asn	Val	Val	Val	Glu	Glu	Asn	Gly	Asn	Glu	Thr	Val	Thr
	130					135					140				
Asn	Leu	His	Asp	Ile	Thr	Lys	Leu	Tyr	Leu	Pro	Arg	Thr	Ala	Lys	Asp
145					150					155				160	
Asn	Ile	Lys	Asp	Leu	Val	Arg	Phe	Tyr	Ile	Lys	Asn	Lys	Asp	Ala	Ile

165 170 175  
 Thr Asn Gly Lys Ile Asp Met Lys Ile Lys Asp Glu Ser Gly Thr Leu  
 180 185 190  
 Gln Thr Tyr Thr Thr Leu Arg Glu Val Pro Asp Glu Asn Leu Arg Thr  
 195 200 205  
 Tyr Leu Gln Ala Asn Phe Ser Asp Leu Phe Asn Gly Asp Gln Ile Asp  
 210 215 220  
 Leu Ser Lys His Leu Gly Tyr Ala Gln Lys Thr Thr Ile Leu Leu Ile  
 225 230 235 240  
 Gln Ala Asn Ala Gly Val Thr Asn Phe Glu Gly Ile Gln Tyr Ile Ile  
 245 250 255  
 Gln Asn Pro Tyr Trp Glu Gly Ala Ala Val Ala Leu Tyr Ser Ala Ala  
 260 265 270  
 Gln Ser Gly Ala Asn Met Pro Ser Val Lys Leu Gly Lys Tyr Val Thr  
 275 280 285  
 Asn Leu Val Leu Asn Asn Leu Asn Val Arg Ser Leu Asp Leu Ser Asn  
 290 295 300  
 Ala Gly Ser Leu Phe Val Leu Asn Ile Gly Thr Val Ala Gly Leu Ser  
 305 310 315 320  
 Thr Leu Asp Leu Thr His Thr Ile Trp Gly Gln Arg Glu Lys Glu Ile  
 325 330 335  
 Glu Ala Glu Glu Ser Lys Gly Ser Tyr Leu Ile Val Tyr Asp Cys Pro  
 340 345 350  
 Ser Leu Lys Glu Ile Lys Leu Pro Lys Lys Asp Glu Leu Lys Thr Cys  
 355 360 365  
 Phe Leu Asp Leu Glu Cys Leu Asp Ala Leu Glu Thr Phe Asp Ile Ser  
 370 375 380  
 Asn Leu Lys Met Val Lys Asn Leu Ile Phe Gly Asn Leu Pro Glu Asn  
 385 390 395 400  
 Phe Asn Leu Val Tyr Pro Glu Leu Thr Val Phe Tyr Ser Pro Glu Gly  
 405 410 415  
 Arg Ser Ala Thr Ser Phe Cys Cys Ser Glu Ser Thr Phe Asn Arg Glu  
 420 425 430  
 Ser Thr Lys Thr Phe Leu Asp Arg Tyr Tyr Thr Lys Gly Thr Gly Val  
 435 440 445  
 Glu Lys Leu Gly Phe Ser Ile Ser Met Ser Cys Asn Lys Asn Asp Gly  
 450 455 460  
 Tyr Asn Trp Arg Lys Ala Leu Lys Lys Lys Ser  
 465 470 475

&lt;210&gt; 10290

&lt;211&gt; 77

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10290

Arg Gln Ser Ser His Gly Tyr Asn Ala Phe Tyr Arg Thr Arg His Leu  
 1 5 10 15  
 Asp Gly Ile Pro Phe Asn Lys Ser Phe Lys Phe Asp Ile Glu Met Leu  
 20 25 30  
 Gly Trp Lys Arg Gly Glu Ala Asp Tyr Ala Thr Thr Ile Tyr Trp Tyr  
 35 40 45  
 Gly Asp Pro Glu Ala Gln Val Phe Gly Thr Ser Gly Ile Glu Glu Ala  
 50 55 60  
 Arg Arg Gln Leu Leu Pro Ala Val Glu Ala Ser Ala Asp  
 65 70 75

&lt;210&gt; 10291

&lt;211&gt; 394

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10291

Leu Val Asn Met Lys His Glu Arg Pro Cys Leu Val Ala Ser Gly Ser  
 1 5 10 15  
 Asp Trp Leu Gln Glu Val Leu Arg Arg Leu Leu Val Trp Val Val Val  
 20 25 30  
 Leu Ser Ser Gly Thr Leu Met Ala Tyr Ala Gly Asn Leu Asp Ile Ser  
 35 40 45  
 Gln Thr Lys Val Ile Thr Gly Thr Val Thr Glu Lys Glu Thr Gly Asp  
 50 55 60  
 Pro Leu Ile Gly Val Asn Val Ser Val Lys Gly Thr Ser Lys Gly Thr  
 65 70 75 80  
 Ile Thr Asn Leu Asn Gly Gln Tyr Ser Val Asp Val Asn Ser Asp Lys  
 85 90 95  
 Asp Ile Leu Val Phe Ser Phe Ile Gly Lys Ala Thr Gln Glu Lys Ala  
 100 105 110  
 Val Lys Gly Leu Ser His Ile Asp Val Val Met Ala Asp Asp Ala Thr  
 115 120 125  
 Met Leu Gly Glu Val Val Ile Gln Thr Gly Tyr Met Thr Gln Arg Lys  
 130 135 140  
 Ala Asp Leu Thr Gly Ser Val Ala Met Ala Asn Thr Ser Asp Leu Ala  
 145 150 155 160  
 Gln Asn Pro Ser Thr Asn Ala Leu Lys Ser Leu Gln Gly Lys Leu Pro  
 165 170 175  
 Gly Val Phe Ile Thr Thr Asp Gly Ser Pro Gly Gly Asn Ala Ser Ile  
 180 185 190  
 Gln Ile Arg Gly Leu Thr Ser Leu Asn Ala Gln Pro Asn Pro Leu Ile  
 195 200 205  
 Val Leu Asp Gly Leu Ala Gly Asp Tyr Asn Leu Arg Asp Ile Asn Pro  
 210 215 220  
 Ala Asn Ile Glu Ser Ile Gln Val Leu Lys Asp Ala Ala Ser Ala Ser  
 225 230 235 240  
 Ile Tyr Gly Ser Arg Ala Ala Gly Gly Val Ile Ile Ile Glu Thr Lys  
 245 250 255  
 Lys Gly Lys Lys Gly Glu Ser Lys Ile Ser Tyr Glu Gly Arg Val Gln  
 260 265 270  
 Phe Ser Lys Trp Val Asn Lys Pro Asp Leu Leu Asn Thr Asp Glu Tyr  
 275 280 285  
 Gly Arg Ala Ile Trp Gln Ala Tyr Ala Asn Asp Asp Lys Leu Gly Glu  
 290 295 300  
 Ile Lys Gln Ser Val Arg Phe Phe Asp Tyr Asp Trp Ser Tyr Asp Ser  
 305 310 315 320  
 Asn Gly Tyr Pro Val Leu Asn Ser Val Lys Pro Val Glu Trp Leu Asn  
 325 330 335  
 Thr Ala Gln Thr Met Arg Ser Ala Asp Thr Asn Trp Ile Asp Glu Ile  
 340 345 350  
 Ser Arg Thr Gly Val Ser Gln Asn His Gln Ile Ser Val Ser Ser Gly  
 355 360 365  
 Thr Asp Lys Ser Arg Thr Phe Phe Asn Leu Gly Tyr Glu Asn Thr Glu  
 370 375 380  
 Gly Ile Gln Ile Glu Thr Phe Trp Lys Asn  
 385 390

&lt;210&gt; 10292

&lt;211&gt; 63

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10292

Arg	Gln	Val	Ser	Ser	Leu	His	Cys	Asp	Thr	Pro	Met	Val	Tyr	Arg	Gly
1				5					10					15	
Ala	Ser	Gly	Leu	His	Glu	Thr	Ser	Ser	Pro	Asp	Ser	Ile	Ser	Pro	Ser
			20					25					30		
Lys	Lys	Ser	Ile	Arg	Phe	Met	Val	Gly	Tyr	Tyr	Ile	Lys	Gly	Ser	Gly
		35					40					45			
Gly	Lys	Tyr	Asn	Asn	Phe	Pro	Glu	Ser	Pro	Thr	Cys	Leu	Val		
	50					55				60					

&lt;210&gt; 10293

&lt;211&gt; 393

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10293

Glu	Met	Glu	Thr	Phe	Tyr	Arg	Thr	His	Ala	Tyr	Leu	Val	Glu	His	Thr
1				5				10					15		
Asn	Ala	Pro	Val	Arg	Arg	Asp	Leu	Met	Asp	Glu	Ile	Asn	Trp	Ser	Asp
			20					25					30		
Arg	Leu	Ile	Gly	Ile	Lys	Gly	Thr	Arg	Gly	Val	Gly	Lys	Thr	Thr	Phe
		35					40					45			
Leu	Leu	Gln	Tyr	Ala	Lys	Glu	Lys	Phe	Gly	Thr	Asp	Arg	Ser	Cys	Leu
	50					55					60				
Phe	Ile	Asn	Met	Asn	Asn	Phe	Tyr	Phe	Ser	Gly	His	Ser	Ile	Val	Asp
65					70					75					80
Phe	Ala	Asn	Glu	Phe	Gln	Lys	Arg	Gly	Gly	Lys	Val	Leu	Leu	Ile	Asp
				85					90					95	
Gln	Val	Phe	Lys	His	Pro	Asp	Trp	Ser	Arg	Glu	Leu	Arg	Met	Cys	Tyr
			100					105					110		
Asp	Arg	Phe	Pro	Asn	Leu	Lys	Ile	Val	Phe	Thr	Gly	Ser	Ser	Val	Met
		115					120					125			
Arg	Leu	Lys	Glu	Glu	Asn	Leu	Glu	Leu	Arg	Asp	Ile	Val	Lys	Ser	Tyr
	130					135					140				
Asn	Leu	Arg	Gly	Phe	Ser	Phe	Arg	Glu	Phe	Leu	Asn	Leu	Gln	Thr	Gly
145					150					155					160
Met	Lys	Phe	Arg	His	Tyr	Thr	Leu	Glu	Glu	Ile	Leu	Ser	Ser	His	Glu
				165					170					175	
Gln	Ile	Ala	Lys	Gly	Val	Leu	Ser	Lys	Val	Arg	Pro	Leu	Asp	Tyr	Phe
			180					185					190		
Gln	Asp	Tyr	Leu	His	His	Gly	Phe	Tyr	Pro	Phe	Phe	Leu	Glu	Lys	Arg
		195					200					205			
Asn	Phe	Ser	Glu	Asn	Leu	Leu	Lys	Thr	Met	Asn	Met	Met	Val	Glu	Val
	210					215					220				
Asp	Ile	Leu	Leu	Ile	Lys	Gln	Ile	Glu	Leu	Lys	Tyr	Leu	Ser	Lys	Ile
225					230					235					240
Lys	Lys	Leu	Leu	Tyr	Leu	Leu	Ala	Val	Asp	Gly	Pro	Lys	Ala	Pro	Asn
				245					250					255	
Val	Ser	Gln	Leu	Ala	Ser	Asp	Ile	Gln	Thr	Ser	Arg	Ala	Thr	Val	Met
			260					265					270		
Asn	Tyr	Ile	Lys	Tyr	Leu	Ala	Asp	Ala	Arg	Leu	Ile	Asn	Leu	Val	Tyr
	275						280					285			
Pro	Lys	Gly	Glu	Glu	Phe	Pro	Lys	Lys	Pro	Ser	Lys	Ile	Met	Leu	His
	290					295					300				
Asn	Pro	Asn	Leu	Met	Tyr	Ser	Ile	Tyr	Pro	Val	Lys	Val	Glu	Glu	Gln
305					310					315					320
Asp	Val	Leu	Asp	Thr	Phe	Phe	Val	Asn	Thr	Met	Trp	Lys	Asp	His	Lys
				325					330					335	

Val His Lys Gly Asp Lys Asn Thr Ser Phe Met Val Asp Glu Val Met  
 340 345 350  
 Pro Phe Lys Ile Cys Cys Glu Gly Ala Lys Ile Lys Asn Asn Pro Gly  
 355 360 365  
 Val Thr Tyr Ala Leu His Lys Ala Glu Ile Gly Arg Gly Asn Gln Ile  
 370 375 380  
 Pro Leu Trp Met Phe Gly Phe Leu Tyr  
 385 390

<210> 10294

<211> 492

<212> PRT

<213> B.fragilis

<400> 10294

Glu Asp Arg Ala Gly Arg Gly Thr Ser Leu Leu Phe Leu Phe Leu Leu  
 1 5 10 15  
 Ser Leu Leu Pro Leu His Ala Gln Thr Ser Pro Lys His Glu Val Arg  
 20 25 30  
 Ala Ala Trp Ile Thr Ala Val Tyr Gly Leu Asp Trp Pro Arg Thr Lys  
 35 40 45  
 Ala Thr Thr Pro Ala Gly Ile Arg Arg Gln Lys Glu Glu Leu Ile Asp  
 50 55 60  
 Ile Leu Asp Arg Leu Lys Glu Ala Asn Phe Asn Thr Val Leu Phe Gln  
 65 70 75 80  
 Thr Arg Thr Arg Gly Asp Val Leu Tyr Arg Ser Asp Ile Glu Pro Phe  
 85 90 95  
 Asn Ser Ile Leu Thr Gly Lys Thr Gly Gly Asp Pro Gly Tyr Asp Pro  
 100 105 110  
 Leu Ala Phe Ala Val Glu Glu Cys His Lys Arg Gly Met Glu Cys His  
 115 120 125  
 Ala Trp Met Val Thr Ile Pro Leu Gly Gly Lys Lys His Val Ala Ser  
 130 135 140  
 Leu Gly Lys Gln Ser Val Thr Arg Arg Glu Arg Asp Ile Cys Val Pro  
 145 150 155 160  
 Tyr Lys Asn Glu Tyr Phe Leu Asn Pro Gly His Pro Ala Thr Lys Glu  
 165 170 175  
 Tyr Leu Met Lys Leu Val Arg Glu Val Ser Arg Tyr Asp Val Asp  
 180 185 190  
 Gly Val His Phe Asp Tyr Leu Arg Tyr Pro Glu Asn Ala Pro Arg Phe  
 195 200 205  
 Pro Asp Ser Tyr Asp Phe Arg Arg Tyr Gly Lys Gly Arg Thr Leu Ala  
 210 215 220  
 Gln Trp Arg Arg Asp Asn Leu Thr Asp Ile Val Arg Tyr Ile Tyr Asn  
 225 230 235 240  
 Gly Val Lys Ala Met Lys Pro Trp Val Lys Val Ser Thr Cys Pro Val  
 245 250 255  
 Gly Lys Tyr Arg Asp Thr Ser Arg Tyr Ser Ser Lys Gly Trp Asn Ala  
 260 265 270  
 Phe Phe Thr Val Tyr Gln Asp Pro Gln Gly Trp Leu Gly Glu Gly Ile  
 275 280 285  
 Gln Asp Gln Ile Tyr Pro Met Met Tyr Phe Arg Gly Asn Gly Phe Tyr  
 290 295 300  
 Pro Phe Ala Leu Asp Trp Gln Glu Gln Ser Asn Gly Arg His Ile Val  
 305 310 315 320  
 Pro Gly Leu Gly Ile Tyr Phe Leu His Pro Asp Glu Gly Asn Trp Thr  
 325 330 335  
 Thr Glu Glu Val Glu Arg Gln Met His Phe Ile Arg Ser Asn Arg Leu  
 340 345 350



Ala Gly Glu Ala His Tyr Arg Val Lys Tyr Leu Met Asp Asn Thr Gln  
 355 360 365  
 Gly Val Tyr Asp Leu Leu Leu Asp His Phe Tyr Gln Tyr Pro Ala Leu  
 370 375 380  
 Gln Pro Pro Met Pro Trp Ile Asp Asn Val Ser Pro Thr Ala Pro Ser  
 385 390 395 400  
 Ala Leu Lys Ala Val Ser Ala Gly Asp Gly Tyr Thr Arg Leu Asn Trp  
 405 410 415  
 Lys Ala Ala Thr Asp Asn Asp Lys Gln Asn Ala Pro Met Tyr Val Val  
 420 425 430  
 Tyr Ala Ser Asp Thr Tyr Pro Val Asp Ile Thr Asn Pro Glu Asn Ile  
 435 440 445  
 Leu Val Gln Asn Leu Arg Asp Thr His Tyr Ile Tyr Ala Pro Ile Arg  
 450 455 460  
 Pro Trp Thr Ala Arg Lys Tyr Phe Ala Val Thr Ala Val Asp Arg Cys  
 465 470 475 480  
 Gly Asn Glu Ser Lys Ala Ala Gln Gln Glu Glu Lys  
 485 490

&lt;210&gt; 10295

&lt;211&gt; 301

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10295

Lys Leu Ile His Thr Met Asn Ser Ile Ile Val Gly Met Gly Glu Ala  
 1 5 10 15  
 Leu Trp Asp Val Leu Pro Glu Gly Lys Lys Ile Gly Gly Ala Pro Ala  
 20 25 30  
 Asn Phe Ala Tyr His Val Ser Gln Phe Gly Phe Asp Ser Arg Val Val  
 35 40 45  
 Ser Ala Val Gly Asn Asp Glu Leu Gly Asp Glu Ile Leu Glu Ile Phe  
 50 55 60  
 Arg Glu Lys Gln Leu Lys His Gln Leu Glu Arg Val Asn Tyr Pro Thr  
 65 70 75 80  
 Gly Thr Val Gln Val Thr Leu Asp Asn Gly Gly Val Pro Cys Tyr Asp  
 85 90 95  
 Ile Lys Glu Gly Val Ala Trp Asp Asn Ile Pro Phe Thr Asp Asp Leu  
 100 105 110  
 Lys Arg Leu Ala Leu Ser Thr Arg Ala Val Cys Phe Gly Ser Leu Ala  
 115 120 125  
 Gln Arg Asp Glu Val Ser Arg Ala Thr Ile Asn Arg Phe Leu Asp Thr  
 130 135 140  
 Met Pro Asp Met Glu Gly Gln Leu Lys Ile Phe Asp Ile Asn Leu Arg  
 145 150 155 160  
 Gln Asn Phe Tyr Thr Lys Glu Val Leu Arg Glu Ser Phe Arg Lys Cys  
 165 170 175  
 Asn Val Leu Lys Ile Asn Asp Glu Glu Leu Ile Leu Ile Ser Arg Met  
 180 185 190  
 Phe Gly Tyr Pro Gly Ile Asp Leu Gln Asp Lys Cys Trp Ile Leu Leu  
 195 200 205  
 Ala Lys Tyr Asn Leu Lys Met Leu Ile Leu Thr Cys Gly Thr Asn Gly  
 210 215 220  
 Ser Tyr Val Phe Thr Pro Gly Thr Val Ser Phe Gln Glu Thr Pro Lys  
 225 230 235 240  
 Val Pro Val Ala Asp Thr Val Gly Ala Gly Asp Ser Phe Thr Ala Ala  
 245 250 255  
 Phe Cys Ser Ser Val Leu Lys Gly Lys Ser Ile Pro Glu Ala His Arg  
 260 265 270

Leu Ala Val Glu Val Ser Ala Tyr Val Cys Thr Gln Ser Gly Ala Met  
 275 280 285  
 Pro Val Leu Pro Glu Ala Leu Arg Asn Arg Leu Asn Asp  
 290 295 300

<210> 10296  
 <211> 768  
 <212> PRT  
 <213> B.fragilis

<400> 10296  
 Thr Lys Asn Lys Pro Asn Lys Arg Thr Thr His Arg Met Lys Ser Met  
 1 5 10 15  
 Arg Ser Ile His Ser Leu Ile Arg Cys Cys Met Ile Leu Leu Leu Leu  
 20 25 30  
 Thr Ser Cys Tyr Ser Lys Glu Glu Arg Arg Val Leu Val Ile His Ser  
 35 40 45  
 Tyr Glu Lys Asp Tyr Gln Gly Tyr Ala Glu Phe Asn Lys Leu Ile Lys  
 50 55 60  
 Lys Glu Phe Ala Lys Ala His Ile Pro Val Glu Leu Thr Phe Phe Tyr  
 65 70 75 80  
 Leu Asn Cys Glu Ile Asn Asn Glu Gln Gln Glu Ile Asp Lys Ile Asn  
 85 90 95  
 Asn Phe Leu Asp Ser Ile Ser Lys Trp Lys Pro Glu Val Leu Leu Val  
 100 105 110  
 Asn Asp Asp Gln Ala Thr Tyr Ser Leu Leu Glu Thr His His Pro Leu  
 115 120 125  
 Leu Lys Gly Ile Pro Ile Val Phe Ser Gly Val Asn Tyr Pro Asn Trp  
 130 135 140  
 Glu Leu Ile Gly Gln Tyr Asn Asn Val Thr Gly Phe His Asp Lys Ile  
 145 150 155 160  
 Asp Phe Arg Lys Asn Leu Glu Met Val His Lys Leu Thr Gly Lys Asn  
 165 170 175  
 His Ile Tyr Thr Ile Leu Asp Phe Thr Phe Leu Asp Arg Lys Val Arg  
 180 185 190  
 Asn Asp Ile Asp Asn Gln Leu Lys Ser Thr Asp Ile Ile Ser Asn Leu  
 195 200 205  
 Asp Trp His Leu Asp Lys Asn Asp Thr Arg Lys Glu Ala Glu Lys Gly  
 210 215 220  
 His Ile Ile Ile Asn Ala Leu Ser Ala Arg Asn Leu Ser Lys Asn Gln  
 225 230 235 240  
 Asn Lys Asp Gln Thr Lys Gly Gly Asp Phe Ile Trp Ser Ile Ser Lys  
 245 250 255  
 Tyr Ser Thr Leu Pro Tyr Leu Gln Thr Lys Phe Asp Tyr Thr Thr Val  
 260 265 270  
 Thr Met Ala Ser Leu Ser Thr Arg Gln Arg Phe Thr Thr Ile Asn Glu  
 275 280 285  
 Leu Phe Asp Cys Gly Arg Asp Phe Leu Gly Gly Tyr Ile Thr Pro Met  
 290 295 300  
 His Ile Gln Val Glu Glu Ser Val His Ala Ala Ala Arg Ile Leu Asn  
 305 310 315 320  
 Gly Glu Asn Val Ala Asp Ile Pro Ile Gln Glu Ser Ala Lys Gly Tyr  
 325 330 335  
 Phe Ile Asp Trp Asn Ala Met Gln Lys Glu His Leu Thr Ile Ala Asp  
 340 345 350  
 Ile Pro His Glu Tyr Thr Ile Ile Asn Ile Pro Phe Lys Thr Arg His  
 355 360 365  
 Pro Ile Val Trp Trp Phe Ala Leu Leu Gly Ser Ile Thr Ala Ile Val  
 370 375 380

Ser Leu Leu Ser Gly Ile Thr Tyr Leu Tyr Trp Arg Glu Thr Lys Arg  
 385 390 395 400  
 Lys Arg Ser Ile Leu Tyr Glu Leu Glu Asp Glu Lys Glu Ser Leu Ala  
 405 410 415  
 Leu Ala Val Glu Gly Ser Asp Thr Tyr Ala Trp Arg Leu Lys Asp Asp  
 420 425 430  
 Thr Met Val Phe Glu Tyr Ala Phe Trp Lys Asn Leu Gly Met Ala Pro  
 435 440 445  
 His Pro Leu Thr Ile Asp Gly Phe Leu Ser Phe Val Asp Ala Asp Tyr  
 450 455 460  
 Leu Asp Thr Thr Gln Ala Leu Leu Thr Lys Asn Ala Thr Asn Gly Lys  
 465 470 475 480  
 His Phe Ile Lys Leu Lys Cys Asp Phe Asn Gly Thr Gly Tyr Gln Trp  
 485 490 495  
 Trp Glu Leu Arg Cys Ser Thr Met Lys Ser Ala Leu Gly Gly Gln Lys  
 500 505 510  
 Thr Thr Gly Leu Leu Leu Asn Ile Glu Asp Tyr Lys Lys Arg Glu Gln  
 515 520 525  
 Glu Leu Ile Glu Ala Arg Lys Met Ala Glu Lys Ala Glu Leu Lys Glu  
 530 535 540  
 Ser Phe Leu Ala Asn Ile Ser His Glu Ile Arg Thr Pro Leu Asn Ala  
 545 550 555 560  
 Ile Val Gly Phe Ser Thr Leu Leu Ala Ser Pro Asp Asp Thr Asp Ile  
 565 570 575  
 Thr Pro Glu Glu Lys Glu Gln Tyr Ile Asp Thr Ile Asn Arg Asn Ser  
 580 585 590  
 Glu Leu Leu Lys Leu Ile Asn Asp Ile Leu Glu Leu Ser Arg Ile  
 595 600 605  
 Glu Ser Gly Tyr Met Ser Phe Asp Cys Asp Asp Tyr Pro Leu Asp Ala  
 610 615 620  
 Leu Ile Arg Asp Thr Tyr Gln Thr His Lys Ile Leu Ile Pro Gly Gln  
 625 630 635 640  
 Leu His Phe Leu Leu Glu Glu Gly Glu Lys Gly Leu Ile Val His Val  
 645 650 655  
 Asp Lys Asn Arg Leu Val Gln Val Ile Thr Asn Phe Leu Asn Asn Ala  
 660 665 670  
 Ser Lys Phe Thr Arg Glu Gly Ser Ile Lys Leu Gly Trp Ser Tyr Met  
 675 680 685  
 Pro Gln Thr Glu Glu Val Glu Ile Tyr Val Glu Asp Thr Gly Ile Gly  
 690 695 700  
 Ile Pro Gln Ser Glu Gln Lys Met Ile Phe Gly Arg Phe Tyr Lys Gln  
 705 710 715 720  
 Asn Glu Phe Ala Gln Gly Thr Gly Leu Gly Leu Ser Ile Cys Lys Leu  
 725 730 735  
 Ile Ile Glu Lys Leu Gln Gly Arg Leu Ser Leu Arg Ser Glu Ala Gly  
 740 745 750  
 Thr Gly Ser Arg Phe Ser Ile Phe Phe Ser Cys Lys Lys Gln Ser Ile  
 755 760 765

&lt;210&gt; 10297

&lt;211&gt; 282

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10297

Asn His Ser Lys Cys Asn Arg Ile Met Ile Asn Ile Gly Gln Tyr Ile  
 1 5 10 15  
 Glu Thr Leu Ile Asn Trp Met Met Ile His Phe Ser Thr Phe Phe Asp  
 20 25 30

Ala Leu Asn Leu Gly Ile Gly Ser Phe Ile Asn Gly Phe Gln His Ile  
 35 40 45  
 Leu Phe Gly Ile Pro Phe Tyr Leu Thr Ile Ala Ala Met Val Leu Leu  
 50 55 60  
 Ala Trp Ala Lys Ala Gly Arg Gly Val Ala Val Phe Thr Leu Leu Gly  
 65 70 75 80  
 Leu Leu Leu Ile Tyr Gly Met Gly Phe Trp Glu Ala Thr Met Gln Thr  
 85 90 95  
 Leu Ala Leu Val Leu Ser Ser Thr Cys Leu Ala Leu Ile Val Gly Val  
 100 105 110  
 Pro Ile Gly Val Trp Thr Ala Asn Ser Asn Arg Ala Glu Lys Val Ile  
 115 120 125  
 His Pro Ile Leu Asp Leu Met Gln Thr Met Pro Ala Phe Val Tyr Leu  
 130 135 140  
 Ile Pro Ala Val Leu Phe Phe Gly Leu Gly Val Val Pro Gly Val Phe  
 145 150 155 160  
 Ala Thr Ile Ile Phe Ala Met Pro Pro Val Ile Arg Leu Thr Gly Leu  
 165 170 175  
 Gly Ile Arg Gln Val Pro Lys Asn Val Val Glu Ala Ser Arg Ser Phe  
 180 185 190  
 Gly Ala Thr Arg Trp Gln Leu Leu Tyr Lys Val Gln Leu Pro Leu Ala  
 195 200 205  
 Leu Pro Thr Ile Leu Thr Gly Val Asn Gln Thr Ile Met Met Ser Leu  
 210 215 220  
 Ser Met Val Val Ile Ala Ala Met Ile Ala Ala Gly Gly Leu Gly Glu  
 225 230 235 240  
 Ile Val Leu Lys Gly Ile Thr Gln Met Lys Ile Gly Leu Gly Phe Glu  
 245 250 255  
 Gly Gly Ile Ala Val Val Ile Leu Ala Ile Ile Leu Asp Arg Ile Thr  
 260 265 270  
 Gln Gly Met Val Arg Arg Lys Asp Lys Lys  
 275 280

&lt;210&gt; 10298

&lt;211&gt; 285

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10298

Asp Met Arg Lys Tyr Arg Ile Ile Gly Ser Leu Leu Leu Leu Ala Val  
 1 5 10 15  
 Met Cys Val Ala Cys Asn Pro Asp Ser Gly Lys Lys Lys Ile Ser Ile  
 20 25 30  
 Ala Tyr Ala Asn Trp Leu Glu Gly Ile Ala Met Ser His Leu Ala Lys  
 35 40 45  
 Val Val Leu Glu Glu Lys Gly Tyr Glu Val Glu Leu Leu Asn Ala Asp  
 50 55 60  
 Val Ala Pro Val Phe Ala Ser Val Ser Arg Lys Lys Ala Asp Val Phe  
 65 70 75 80  
 Met Asp Ala Trp Leu Pro Val Thr Met Lys Asp Tyr Ile Asp Gln Tyr  
 85 90 95  
 Gly Asp Gln Ile Glu Phe Ile Gly Glu Val Tyr Asp Ser Ala Arg Val  
 100 105 110  
 Gly Leu Val Val Pro Gln Tyr Val Thr Ile Asp Ser Ile Gly Glu Leu  
 115 120 125  
 Ala Ala Tyr Lys Gly Gln Phe Ser Ser Glu Ile Val Gly Ile Asp Ala  
 130 135 140  
 Gly Ala Gly Ile Met Lys Thr Thr Asp Lys Ala Ile Gly Asp Tyr Gly  
 145 150 155 160

Leu	Asp	Gly	Tyr	Lys	Leu	Leu	Thr	Ser	Ser	Ser	Ser	Thr	Met	Leu	Ala
				165					170					175	
Ser	Leu	Gln	Lys	Ala	Met	Glu	Lys	Glu	Ala	Trp	Ile	Val	Ile	Thr	Gly
			180					185					190		
Trp	Thr	Pro	His	Trp	Met	Phe	Asp	Arg	Tyr	Pro	Leu	Lys	Phe	Leu	His
			195				200					205			
Asp	Pro	Lys	Gly	Thr	Tyr	Gly	Asn	Val	Glu	Ser	Ile	Tyr	Val	Val	Gly
	210					215					220				
Trp	Lys	Gly	Phe	Thr	Glu	Lys	Asp	Pro	Phe	Ala	Ala	Lys	Phe	Phe	Ser
225					230					235					240
Asn	Ile	Lys	Phe	Thr	Thr	Glu	Glu	Ile	Ser	Ser	Leu	Met	Lys	Ala	Leu
				245					250					255	
Lys	Asp	Ala	Arg	Met	Asp	Glu	Glu	Asp	Leu	Val	Arg	Lys	Trp	Arg	Asp
			260					265					270		
Glu	His	Arg	Glu	Leu	Val	Glu	Ser	Trp	Ile	Pro	Glu	Ser			
		275					280					285			

&lt;210&gt; 10299

&lt;211&gt; 909

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10299

Pro	Thr	Met	Asn	Arg	Ile	Leu	Phe	Leu	Leu	Gly	Leu	Met	Leu	Ser	Gly
1			5						10					15	
Leu	Leu	Val	Ser	Cys	Ser	Pro	Asp	Ala	Pro	Arg	Tyr	Thr	Ile	Gly	Val
			20					25					30		
Ser	Gln	Cys	Ser	Asp	Asp	Thr	Trp	Arg	His	Lys	Met	Asn	Asp	Glu	Ile
		35				40					45				
Gln	Arg	Glu	Ala	Leu	Phe	Tyr	Gly	Gly	Val	Lys	Val	Glu	Thr	Arg	Thr
	50					55					60				
Ala	His	Asp	Asp	Ser	Arg	Arg	Gln	Ile	Glu	Asp	Ile	Arg	Tyr	Phe	Ile
65					70					75					80
Arg	Gln	Lys	Val	Asp	Leu	Leu	Ile	Val	Ala	Ala	Asn	Glu	Gly	Met	Ala
				85					90					95	
Leu	Thr	Pro	Val	Val	Glu	Glu	Ala	Phe	Asp	Lys	Gly	Ile	Pro	Val	Ile
			100					105					110		
Met	Val	Asp	Arg	Arg	Ile	Leu	Ser	Asp	Lys	Tyr	Thr	Ala	Tyr	Ile	Gly
		115					120					125			
Ala	Asp	Asn	Tyr	Glu	Leu	Gly	Lys	Ala	Val	Gly	Asn	Tyr	Ile	Ala	His
	130					135					140				
Arg	Leu	Lys	Gly	Arg	Gly	Lys	Val	Val	Glu	Leu	Ser	Gly	Leu	Val	Gly
145					150					155					160
Ser	Thr	Pro	Ala	Ile	Glu	Arg	His	Gln	Gly	Phe	Met	Ser	Ala	Ile	Ser
				165					170					175	
Gln	Tyr	Pro	Asp	Met	Thr	Leu	Leu	Ala	Ser	Glu	Asp	Ala	Gly	Trp	Leu
			180					185					190		
Gln	Gln	Pro	Ala	Glu	Ala	Lys	Met	Asp	Ser	Leu	Leu	Gln	Arg	Phe	Pro
		195					200					205			
Glu	Ile	Asp	Ala	Val	Tyr	Gly	Met	Asn	Asp	Arg	Met	Ala	Ala	Gly	Ala
	210					215					220				
Phe	Arg	Ala	Ala	Gly	Arg	Arg	Gly	Arg	Glu	Lys	Glu	Met	Ile	Phe	Val
225					230						235				240
Gly	Ile	Asp	Ala	Leu	Pro	Gly	Lys	Gly	Asn	Gly	Val	Glu	Leu	Val	Leu
				245					250					255	
Asp	Ser	Val	Leu	Asp	Ala	Thr	Phe	Ile	Tyr	Pro	Thr	Glu	Gly	Asp	Lys
			260					265					270		
Val	Val	Gln	Leu	Ala	Met	Asp	Ile	Leu	Glu	Lys	Lys	Pro	Phe	Glu	Arg
		275					280						285		

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Glu Thr Lys Leu Lys Thr Ala Val Val Asp Ala Val Asn Ala His Val  
 290 295 300  
 Met Glu Leu Gln Thr Asn His Ile Gly Glu Leu Asp Gly Lys Ile Glu  
 305 310 315 320  
 Thr Leu Asn Asp Arg Val Gly Ile Tyr Leu Ser Arg Val Ala Thr Gln  
 325 330 335  
 Arg Ile Val Leu Tyr Gly Gly Leu Ile Leu Leu Leu Ile Val Gly  
 340 345 350  
 Leu Leu Ile Val Val Tyr Lys Ser Leu Arg Ser Lys Asn Ser Leu Asn  
 355 360 365  
 Arg Glu Leu Ser Arg Gln Lys Glu Gln Leu Glu Glu Gln Arg Asp Gln  
 370 375 380  
 Leu Ile Glu Leu Ser His Gln Leu Glu Glu Ala Thr His Ala Lys Leu  
 385 390 395 400  
 Val Phe Phe Thr Asn Ile Ser His Asp Phe Arg Thr Pro Leu Thr Leu  
 405 410 415  
 Val Ala Asp Pro Val Glu Gln Leu Leu Ala Asp Pro Ser Leu Glu Gly  
 420 425 430  
 Asp Arg Arg Arg Met Leu Leu Leu Val Gln Arg Asn Val Gln Ile Leu  
 435 440 445  
 Leu Arg Leu Val Asn Gln Ile Leu Asp Phe Arg Arg Tyr Glu Thr Gly  
 450 455 460  
 Lys Met Glu Phe Thr Pro Val Pro Leu Asp Leu Leu Gln Cys Phe Val  
 465 470 475 480  
 Gly Trp Asn Asp Ser Phe Gln Ala Ala Ala Arg Arg Lys His Ile His  
 485 490 495  
 Phe Ser Phe Asp Ser Val Pro Asp Thr Asp Tyr His Thr Gln Ala Asp  
 500 505 510  
 Ala Glu Lys Leu Glu Arg Ile Tyr Phe Asn Leu Leu Ala Asn Ala Phe  
 515 520 525  
 Lys Phe Thr Pro Glu Asn Gly Lys Val Thr Val Arg Leu Ala Ala Leu  
 530 535 540  
 Gln Lys Asp Gly Ala Pro Phe Phe Arg Phe Thr Val Ala Asn Thr Gly  
 545 550 555 560  
 Ser Leu Ile Ser Ala Glu His Ile Arg Ser Ile Phe Asp Arg Phe Tyr  
 565 570 575  
 Lys Ile Asp Arg His His Thr Gly Ser Gly Ile Gly Leu Ala Leu Val  
 580 585 590  
 Lys Ala Phe Val Glu Ile His Gly Gly Ser Ile Ser Val Glu Ser Asp  
 595 600 605  
 Glu Arg Leu Gly Thr Val Phe Thr Val Asp Leu Pro Val Arg Thr Cys  
 610 615 620  
 Glu Glu Gly Ala Cys Val Val Thr Ala Pro Met Glu Glu Ser Ala Pro  
 625 630 635 640  
 Asp Arg Val Asp Ser Leu Leu Arg Glu Asp Glu Ala Glu Asn Leu Asn  
 645 650 655  
 Asp Pro Ser Lys Pro Ser Val Leu Val Ile Asp Asp Asn Ala Asp Ile  
 660 665 670  
 Arg Ala Tyr Val His Thr Leu Leu Asn Ser Glu Tyr Ser Ile Ile Glu  
 675 680 685  
 Ala Ala Asp Gly Thr Glu Gly Ile Arg Lys Ala Met Lys Tyr Val Pro  
 690 695 700  
 Asp Val Ile Ile Ser Asp Val Met Met Pro Gly Ile Asp Gly Ile Glu  
 705 710 715 720  
 Cys Cys Arg Arg Leu Lys Gly Glu Leu Gln Thr Cys His Ile Pro Val  
 725 730 735  
 Ile Leu Leu Thr Ala Cys Ser Leu Asp Glu Gln Arg Ile Gln Gly Tyr  
 740 745 750  
 Ala Gly Gly Ala Asp Ser Tyr Ile Ser Lys Pro Phe Ser Ser Gln Leu

755	760	765
Leu Leu Thr Arg Ile Arg Asn	Leu Ile Glu Ser Arg Gln Arg Met Lys	
770	775	780
Gln Phe Phe Gly Asp Arg Gln Thr	Leu Ala Lys Glu Asp Ile Cys Asp	
785	790	795
Met Asp Lys Asp Phe Val Glu Arg	Phe Lys Ser Leu Ile Glu Val Lys	800
	805	810
Met Gly Asp Ser Glu Leu Asn Val	Glu Asp Leu Gly Lys Glu Met Gly	815
	820	825
Leu Ser Arg Val Gln Leu Tyr Arg	Lys Ile Lys Ser Leu Thr Asn Tyr	830
	835	840
Ala Pro Asn Glu Leu Leu Arg Met	Ala Arg Leu Lys Lys Ala Ala Ser	845
	850	855
Leu Leu Ala Ser Ser Asp Met Thr	Ile Ala Glu Val Gly Tyr Glu Val	860
865	870	875
Gly Phe Thr Ser Pro Ser Tyr Phe	Ala Lys Cys Tyr Lys Glu Gln Phe	880
	885	890
Gly Glu Ser Pro Thr Glu Phe Leu	Lys Arg Ser Gly Leu	895
	900	905

<210> 10300  
 <211> 214  
 <212> PRT  
 <213> B.fragilis

<400> 10300
Thr Lys Met Asn Arg Phe His His Arg Val Thr Gln Ser Leu Thr Glu
1 5 10 15
Phe Lys Phe Leu Val His Arg Met Phe Lys Arg Lys Ile Phe Ser Val
20 25 30
Arg Leu Cys Val Thr Leu Trp Cys Pro Pro Lys Asn Gly Ile Ile Met
35 40 45
Asn Ile Thr Ile Arg Pro Thr Arg Leu Glu Glu Leu Gly Gln Val Met
50 55 60
Pro Phe Tyr Glu Arg Ala Arg Arg Phe Met Ala Thr Asn Gly Asn Ala
65 70 75 80
Asn Gln Trp Ile Asn Gly Tyr Pro Ser Pro Asp Asp Ile Arg Gln Asp
85 90 95
Ile Glu Asn Gly Ser Ser Tyr Val Phe Val Asn Glu Asn Gln Glu Leu
100 105 110
Glu Gly Cys Phe Ala Phe Ile Arg Gly Glu Asp Pro Asn Tyr Lys Val
115 120 125
Ile Lys Asp Gly Ala Trp Leu Asn Asp Ala Pro Tyr Gly Val Ile His
130 135 140
Arg Ile Ala Ser Gly Gly Arg Val Lys Gly Leu Met Asp Leu Cys Leu
145 150 155 160
Glu Trp Cys Ser Ser His Cys Pro Asn Leu Arg Val Asp Thr His Arg
165 170 175
Asp Asn Lys Val Leu Gln Asn Ile Leu Leu Lys Asn Gly Phe Thr Tyr
180 185 190
Cys Gly Ile Ile Tyr Val Lys Asn Gly Thr Glu Arg Leu Ala Tyr Gln
195 200 205
Arg Thr Ala Val Thr Arg
210

<210> 10301  
 <211> 281  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 10301

Arg	His	Val	Asn	Pro	Gly	Cys	Tyr	Phe	Gly	Gly	Ser	Ala	Thr	Gln	Tyr
1			5						10					15	
Phe	Ile	Gly	Asp	Phe	Asp	Gly	Glu	Lys	Phe	Val	Cys	Asp	Asn	Lys	Pro
		20						25					30		
Glu	Thr	Val	Lys	Trp	Leu	Asp	Trp	Gly	Lys	Asp	His	Tyr	Ala	Thr	Val
		35					40					45			
Cys	Phe	Ser	Asn	Thr	Gly	Asp	Arg	Thr	Ile	Ala	Val	Pro	Trp	Met	Ser
	50					55					60				
Asn	Trp	Gln	Tyr	Ala	Asn	Ile	Val	Pro	Thr	Arg	Gln	Phe	Arg	Ser	Ala
65					70					75					80
Asn	Ala	Leu	Pro	Arg	Glu	Leu	Ser	Leu	Tyr	Thr	Gln	Asp	Gly	Asp	Ile
				85					90					95	
Tyr	Met	Ala	Ala	Ala	Pro	Val	Glu	Glu	Thr	Lys	Ser	Leu	Arg	Lys	Glu
			100					105					110		
Ser	Arg	Glu	Ile	Pro	Ala	Phe	Glu	Val	Gly	Asp	Ala	Tyr	His	Val	Asp
		115					120				125				
Ser	Leu	Leu	Ser	Asp	Asn	Lys	Gly	Ala	Tyr	Glu	Ile	Glu	Leu	Glu	Leu
	130					135					140				
Ala	Ala	Gly	Ser	Ala	Glu	Ile	Met	Gly	Leu	Lys	Leu	Phe	Asn	Glu	Lys
145					150					155					160
Gly	Glu	Asn	Val	Asp	Ile	Tyr	Ile	Ser	Leu	Pro	Glu	Lys	Lys	Leu	Val
			165						170					175	
Met	Asp	Arg	Thr	Lys	Ser	Gly	Ile	Val	Asp	Phe	Gly	Lys	Asp	Ser	Ala
			180					185					190		
Pro	His	Ala	Ile	Glu	Ala	His	Asp	Arg	Arg	Lys	Gln	Asn	Ser	Ile	Asn
		195					200					205			
Tyr	Val	Asp	Asp	Phe	Ala	Leu	Gly	Thr	Trp	Ala	Pro	Val	Gln	Lys	Ala
	210					215					220				
Gly	Asn	Tyr	Lys	Leu	Asp	Ile	Phe	Val	Asp	Lys	Cys	Ser	Val	Glu	Ile
225					230					235					240
Phe	Leu	Asn	Gly	Gly	Lys	Ile	Ala	Met	Thr	Asn	Leu	Ile	Phe	Pro	Thr
			245						250					255	
Thr	Pro	Tyr	Asn	Gln	Met	Ser	Phe	Tyr	Ser	Arg	Gly	Gly	Ala	Phe	Lys
			260					265					270		
Val	Asp	Arg	Cys	Lys	Ile	Tyr	Arg	Leu							
		275					280								

&lt;210&gt; 10302

&lt;211&gt; 390

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10302

His	Ile	Met	Glu	Asn	Thr	Lys	Asn	Asn	Ser	Tyr	Met	Lys	Leu	Ile	Pro
1				5					10					15	
Val	Met	Leu	Cys	Phe	Phe	Ala	Met	Gly	Phe	Val	Asp	Leu	Val	Gly	Ile
			20					25					30		
Ala	Ser	Asn	Tyr	Val	Lys	Ala	Asp	Leu	Gly	Leu	Thr	Asp	Ser	Gln	Ala
		35					40					45			
Asn	Ile	Phe	Pro	Ser	Leu	Val	Phe	Phe	Trp	Phe	Leu	Ile	Phe	Ser	Val
	50					55					60				
Pro	Thr	Gly	Met	Leu	Met	Asn	Arg	Ile	Gly	Arg	Lys	Lys	Thr	Val	Leu
65					70					75					80
Leu	Ser	Leu	Val	Ile	Thr	Phe	Ala	Ser	Leu	Leu	Leu	Pro	Val	Phe	Gly
				85					90					95	
Asp	Ser	Tyr	Leu	Leu	Met	Leu	Val	Ser	Phe	Ser	Leu	Leu	Gly	Ile	Gly
			100					105					110		



Asn Ala Leu Met Gln Thr Ser Leu Asn Pro Val Leu Ser Asn Ile Val  
 115 120 125  
 Ser Gly Glu Arg Leu Ala Ser Thr Leu Thr Phe Gly Gln Phe Val Lys  
 130 135 140  
 Thr Ile Ala Ser Phe Leu Ala Pro Tyr Ile Ala Met Trp Gly Ala Ile  
 145 150 155 160  
 Glu Ala Ile Pro Thr Phe Asp Leu Gly Trp Arg Val Leu Phe Pro Ile  
 165 170 175  
 Tyr Met Val Val Ala Val Val Ala Ile Leu Leu Leu Asn Ala Thr Gln  
 180 185 190  
 Ile Thr Glu Glu Pro Glu Glu Gly Lys Pro Ser Thr Phe Gly Gln Cys  
 195 200 205  
 Leu Ala Leu Leu Gly Lys Pro Phe Ile Leu Leu Ser Phe Leu Gly Ile  
 210 215 220  
 Met Cys His Val Gly Ile Asp Val Gly Thr Asn Thr Thr Ala Pro Lys  
 225 230 235 240  
 Ile Leu Met Glu Arg Leu Gly Met Thr Leu Ala Asp Ala Gly Phe Ala  
 245 250 255  
 Thr Ser Leu Tyr Phe Ile Phe Arg Thr Ala Gly Cys Phe Leu Gly Ala  
 260 265 270  
 Phe Ile Leu Gln Lys Met Ala Ala Lys Thr Phe Phe Ala Ile Ser Val  
 275 280 285  
 Leu Cys Met Leu Ala Ala Met Phe Gly Leu Phe Val Phe Gln Asp Gln  
 290 295 300  
 Ala Met Ile Tyr Val Cys Ile Ala Leu Ile Gly Phe Gly Asn Ser Asn  
 305 310 315 320  
 Val Phe Pro Ile Ile Phe Ser Gln Ala Met Leu Tyr Met Pro Asp Lys  
 325 330 335  
 Lys Asn Glu Val Ser Gly Leu Met Ile Met Gly Leu Phe Gly Gly Thr  
 340 345 350  
 Ile Phe Pro Leu Ala Met Gly Val Ala Ser Asp Ala Val Gly Gln Ser  
 355 360 365  
 Gly Ala Val Ala Val Met Leu Val Gly Val Leu Tyr Leu Met Phe Tyr  
 370 375 380  
 Thr Trp Arg Ile Lys Lys  
 385 390

&lt;210&gt; 10303

&lt;211&gt; 124

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10303

Arg Asn Ser Leu Tyr Lys Ser Asn Thr Ser Met Lys Asp Tyr Lys Glu  
 1 5 10 15  
 Asn Lys Ser Asn Leu Ser Glu Thr Phe Cys Asn Glu Val Tyr Ser Val  
 20 25 30  
 Val Arg Glu Ile Pro Ala Gly Ser Val Thr Thr Tyr Gly Asp Ile Ala  
 35 40 45  
 Ala Leu Leu Gly Met Pro Gln Tyr Ser Arg Met Val Gly Arg Ala Leu  
 50 55 60  
 Arg Gln Val Pro Ala Gly Leu Asn Leu Pro Cys His Arg Val Val Asn  
 65 70 75 80  
 Ala Ile Gly Arg Leu Val Pro Gly Trp Asp Glu Gln Arg Arg Leu Leu  
 85 90 95  
 Asp Ala Glu Gly Val Ser Phe Arg Lys Asn Gly Cys Val Asp Leu Arg  
 100 105 110  
 Leu His Arg Trp Arg Asp Asp Ser Val Leu Ala Asp  
 115 120

<210> 10304  
 <211> 412  
 <212> PRT  
 <213> B.fragilis

<400> 10304

Thr	Leu	Leu	Cys	Met	Ser	Lys	Ile	Thr	Ile	Lys	Asp	Leu	Tyr	Leu	Ile
1				5					10					15	
Phe	Gly	Asn	Asp	Lys	Gln	His	Ala	Leu	Arg	Met	Leu	Lys	Glu	Glu	Lys
			20					25					30		
Ser	Lys	Ser	Glu	Ile	Leu	Lys	Ala	Thr	Gly	Cys	Thr	Val	Ala	Val	Lys
		35					40					45			
Asp	Ala	Asn	Leu	Ser	Ile	Arg	Glu	Gly	Glu	Ile	Phe	Val	Ile	Met	Gly
	50					55					60				
Leu	Ser	Gly	Ser	Gly	Lys	Ser	Thr	Leu	Leu	Arg	Cys	Ile	Asn	Arg	Leu
65					70					75				80	
Ile	Lys	Pro	Thr	Ser	Gly	Glu	Val	Ile	Ile	Asn	Gly	Arg	Asp	Ile	Ser
				85					90					95	
Asn	Val	Thr	Asp	Lys	Glu	Leu	Leu	Arg	Ile	Arg	Arg	Lys	Glu	Leu	Ala
			100					105					110		
Met	Val	Phe	Gln	His	Phe	Gly	Leu	Leu	Pro	His	Arg	Ser	Val	Leu	His
		115					120					125			
Asn	Ile	Ala	Phe	Gly	Leu	Glu	Leu	Gln	Gly	Val	Lys	Lys	Gln	Glu	Arg
	130					135					140				
Glu	Gln	Arg	Ala	Met	Glu	Ser	Met	Gln	Leu	Val	Gly	Leu	Lys	Gly	Tyr
145					150					155					160
Glu	Asn	Gln	Met	Val	Gly	Glu	Leu	Ser	Gly	Gly	Met	Gln	Gln	Arg	Val
			165						170					175	
Gly	Leu	Ala	Arg	Ala	Leu	Ala	Asn	Asp	Pro	Glu	Val	Leu	Leu	Met	Asp
			180					185					190		
Glu	Ala	Phe	Ser	Ala	Leu	Asp	Pro	Leu	Ile	Arg	Ile	Gln	Met	Gln	Asp
		195					200					205			
Glu	Leu	Leu	Thr	Leu	Gln	Ser	Lys	Met	Lys	Lys	Thr	Ile	Val	Phe	Ile
	210					215					220				
Thr	His	Asp	Leu	Asn	Glu	Ala	Ile	Lys	Leu	Gly	Asp	Arg	Ile	Ala	Ile
225					230					235					240
Met	Lys	Asp	Gly	Glu	Val	Val	Gln	Val	Gly	Thr	Ser	Glu	Glu	Ile	Leu
			245						250					255	
Thr	Glu	Pro	Ala	Asn	Ala	Tyr	Val	Glu	Arg	Phe	Val	Gln	Ser	Val	Asp
			260					265					270		
Arg	Ser	Lys	Ile	Ile	Thr	Ala	Ala	Ser	Val	Met	Val	Asp	Lys	Pro	Leu
		275					280					285			
Val	Ala	Arg	Leu	Lys	Lys	Glu	Gly	Pro	Glu	Val	Leu	Ile	Arg	Lys	Met
	290					295					300				
Leu	Glu	Arg	Asn	Leu	Thr	Val	Leu	Pro	Val	Val	Asp	Val	Asn	Asn	Val
305					310					315					320
Leu	Val	Gly	Glu	Val	Arg	Leu	Lys	Asp	Leu	Leu	Arg	Leu	Arg	Gln	Asp
			325						330					335	
Gln	Val	Lys	Ser	Ile	Glu	Ser	Val	Val	Arg	Glu	Glu	Val	His	Ser	Val
		340						345					350		
Leu	Gly	Asp	Thr	Ile	Leu	Glu	Asp	Ile	Leu	Pro	Leu	Met	Thr	Lys	Thr
		355					360					365			
Asn	Ser	Pro	Ile	Trp	Val	Val	Asn	Glu	Thr	Arg	Glu	Phe	Gln	Gly	Val
	370					375					380				
Val	Pro	Leu	Ser	Ser	Leu	Ile	Tyr	Glu	Val	Thr	Gly	Lys	Asn	Lys	Gln
385					390					395					400
Glu	Ile	Asn	Glu	Ile	Ile	Gln	Asn	Ala	Ile	Glu	Leu				
				405					410						

<210> 10305  
 <211> 102  
 <212> PRT  
 <213> B.fragilis

<400> 10305

Ala	Leu	Ala	Gly	Ser	Val	Arg	Ile	Ser	Ser	Glu	Val	Pro	Thr	Cys	Thr
1				5					10					15	
Thr	Ser	Pro	Ser	Phe	Met	Ile	Ala	Ile	Arg	Ser	Pro	Asn	Leu	Met	Ala
			20					25					30		
Ser	Phe	Lys	Ser	Trp	Val	Ile	Asn	Thr	Met	Val	Phe	Phe	Ile	Leu	Asp
		35					40				45				
Cys	Lys	Val	Ser	Asn	Ser	Ser	Cys	Ile	Cys	Met	Arg	Ile	Lys	Gly	Ser
	50					55				60					
Arg	Ala	Glu	Lys	Ala	Ser	Ser	Ile	Ser	Ser	Thr	Ser	Gly	Ser	Leu	Ala
65					70					75				80	
Asn	Ala	Arg	Ala	Lys	Pro	Thr	Arg	Cys	Cys	Ile	Pro	Pro	Asp	Ser	Ser
				85					90					95	
Pro	Thr	Ile	Trp	Phe	Ser										
															100

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 <212> PRT  
 <213> B.fragilis

<400> 10306

His	Gln	Ile	Leu	Asn	Ile	Met	Asp	Tyr	Glu	Lys	Leu	Glu	Gln	Leu	Lys
1				5					10					15	
Arg	Leu	His	Asp	Ser	Gly	Ala	Leu	Asn	Asp	Glu	Glu	Phe	Glu	Lys	Glu
			20					25					30		
Lys	Lys	Lys	Ile	Leu	Asp	Glu	Glu	Ala	Thr	Ala	Lys	Pro	Thr	Ala	Val
		35					40				45				
Leu	Pro	Met	Gly	Leu	Thr	Glu	Asn	Ala	Tyr	Leu	Ala	Leu	Met	Asn	Phe
	50					55				60					
Ala	Met	Phe	Ile	Pro	Tyr	Val	Gly	Trp	Ile	Ala	Pro	Ile	Val	Phe	Trp
65					70					75				80	
Ile	Met	Gly	Lys	Glu	Asn	Ser	Ile	Leu	Val	Asn	Arg	Gln	Gly	Lys	Tyr
			85					90						95	
Ile	Leu	Asn	Trp	Tyr	Ile	Ser	Trp	Phe	Leu	Tyr	Gly	Ile	Ala	Leu	Thr
		100						105					110		
Val	Leu	Phe	Val	Ile	Phe	Met	Phe	Ser	Gly	Ile	Leu	Ser	Ile	Asn	Asp
		115					120					125			
Met	Asp	Tyr	Ala	Asn	Asp	Gln	Thr	Ser	Pro	Leu	Ala	Val	Leu	Leu	Gly
	130					135					140				
Ile	Phe	Gly	Gly	Gly	Ala	Gly	Ile	Leu	Leu	Leu	Leu	Ile	Leu	Gly	Ile
145					150					155				160	
Gly	Cys	Phe	Leu	Cys	Leu	Leu	Phe	Pro	Ile	Ile	Gly	Gly	Ile	Lys	Gly
			165						170					175	
Leu	Asn	Gly	Lys	Thr	Trp	Lys	Tyr	Pro	Leu	Ser	Ile	Pro	Phe	Leu	Lys
			180					185						190	

<210> 10307  
 <211> 398  
 <212> PRT  
 <213> B.fragilis

<400> 10307

Leu Met Leu Met Thr Asn Leu Leu Tyr Leu Phe Asn Pro Asp Gln Asp  
 1 5 10 15  
 Leu Ala Leu Ala Ser Gly Glu Val Asn Tyr Met Pro Pro Ala Ser Ala  
 20 25 30  
 Arg Arg Met Ala Glu Glu Leu Ala Leu Leu Pro Val Trp Phe Ala Asp  
 35 40 45  
 Gly Pro Cys Ser Val Leu Ala Pro Ser Ala Tyr Asn Gln Ser Phe Leu  
 50 55 60  
 Glu Glu Met Leu Asp Leu Phe Pro Leu Pro Ala Ser Leu Arg Thr Gln  
 65 70 75 80  
 Ala Glu Asp Phe Ser Glu Val Arg Ser Val Val Pro Trp Gly Trp Asn  
 85 90 95  
 Pro Ala Leu Arg Lys Arg Leu Leu Ser Leu Gly Val Pro Asp Ala Ala  
 100 105 110  
 Leu Pro Ser Met Glu Asp Ile Gly Arg Leu Arg Asp Leu Ser His Arg  
 115 120 125  
 Leu Gln Ala Val Arg Leu Leu Ser Gly Leu Gln Val Asp Glu Val Phe  
 130 135 140  
 Cys Gly Glu Ser Cys Tyr Leu Thr Ala Leu Ser Asp Cys Arg Ala Phe  
 145 150 155 160  
 Val Glu Ser Leu Glu Arg Cys Leu Leu Lys Ala Pro Leu Ser Gly Ser  
 165 170 175  
 Gly Lys Gly Leu Asn Trp Cys Lys Gly Ala Phe Thr Pro Leu Ile Glu  
 180 185 190  
 Arg Trp Cys Ala Arg Val Ile Glu Gln Gln Gly Gly Val Val Gly Glu  
 195 200 205  
 Pro Ile Tyr Asn Lys Val Glu Asp Phe Ala Met Glu Phe Tyr Ser Asp  
 210 215 220  
 Gly Lys Gly Arg Ile Ile Phe Ala Gly Tyr Ser Leu Phe Arg Thr Asn  
 225 230 235 240  
 Ala Gly Gly Ala Tyr Glu Gly Asn Arg Leu Leu Pro Asp Ala Glu Ile  
 245 250 255  
 Glu Arg Arg Leu Ser Ala Tyr Val Pro Val Ala Ala Leu His Arg Leu  
 260 265 270  
 Arg Glu Glu Leu Gln Arg Arg Leu Ser Val Ser Leu Gly Thr Glu Tyr  
 275 280 285  
 Ala Gly Tyr Leu Gly Val Asp Met Met Ile Cys Arg Phe Ala Leu Leu  
 290 295 300  
 Pro Glu Phe Arg Ile His Pro Cys Val Glu Ile Asn Leu Arg Met Asn  
 305 310 315 320  
 Met Gly Leu Val Ser Arg Met Leu Tyr Asp Arg Tyr Val Arg Pro Gly  
 325 330 335  
 Ala Gly Gly Thr Phe Arg Ile Ser Tyr His Pro Ser Asp Gly Gln Ala  
 340 345 350  
 Leu Gln Glu His Asp Ala Met Thr Val Ala His Pro Leu His Thr Arg  
 355 360 365  
 Asn Gly Arg Val Val Lys Gly Tyr Leu Pro Leu Val Pro Val Arg Lys  
 370 375 380  
 Ser Ser Arg Tyr Arg Ala Tyr Ile Leu Val Glu Thr Gly Gly  
 385 390 395

&lt;210&gt; 10308

&lt;211&gt; 1193

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10308

Ile Thr Tyr Leu Asn Ile Ile Phe Ile Met Thr Lys Gln Lys Lys Phe  
 1 5 10 15

Ile	Thr	Cys	Asp	Gly	Asn	Gln	Ala	Ala	His	Ile	Ser	Tyr	Met	Phe	
			20					25				30			
Ser	Glu	Val	Ala	Ala	Ile	Tyr	Pro	Ile	Thr	Pro	Ser	Ser	Thr	Met	Ala
		35					40					45			
Glu	Tyr	Val	Asp	Glu	Trp	Ala	Ala	Ala	Gly	Arg	Lys	Asn	Ile	Phe	Gly
	50					55					60				
Glu	Thr	Val	Leu	Val	Gln	Glu	Met	Gln	Ser	Glu	Gly	Gly	Ala	Ala	Gly
65					70					75					80
Ala	Val	His	Gly	Ser	Leu	Gln	Ala	Gly	Ala	Leu	Thr	Thr	Thr	Tyr	Thr
				85					90					95	
Ala	Ser	Gln	Gly	Leu	Leu	Leu	Met	Ile	Pro	Asn	Met	Tyr	Lys	Ile	Ala
			100					105					110		
Gly	Glu	Phe	Leu	Pro	Cys	Val	Phe	His	Val	Ser	Ala	Arg	Thr	Leu	Ala
		115					120					125			
Ser	His	Ala	Leu	Cys	Ile	Phe	Gly	Asp	His	Gln	Asp	Val	Met	Ser	Ala
	130					135					140				
Arg	Gln	Thr	Gly	Phe	Ala	Met	Leu	Ala	Glu	Gly	Ser	Val	Gln	Glu	Val
145					150					155					160
Met	Asp	Leu	Ala	Gly	Val	Ala	His	Leu	Ala	Thr	Ile	Lys	Ala	Arg	Val
				165					170					175	
Pro	Phe	Met	Asn	Phe	Phe	Asp	Gly	Phe	Arg	Thr	Ser	His	Glu	Ile	Gln
			180					185					190		
Lys	Ile	Glu	Met	Leu	Glu	Asn	Glu	Asp	Leu	Ala	Pro	Leu	Val	Asp	Gln
		195					200					205			
Glu	Ala	Leu	Ala	Glu	Phe	Arg	Ala	Arg	Ala	Leu	Asn	Pro	Met	Asn	Pro
	210					215					220				
Val	Ala	Arg	Gly	Met	Ala	Glu	Asn	Pro	Asp	His	Phe	Phe	Gln	His	Arg
225					230					235					240
Glu	Ser	Cys	Asn	Asn	Tyr	Tyr	Glu	Ala	Val	Pro	Ala	Ile	Val	Glu	Glu
			245						250					255	
Tyr	Met	Asn	Glu	Ile	Ser	Lys	Ile	Thr	Gly	Arg	Lys	Tyr	Gly	Leu	Phe
			260					265					270		
Asp	Tyr	Tyr	Gly	Ala	Glu	Asp	Ala	Glu	Arg	Val	Ile	Ile	Ala	Met	Gly
		275					280					285			
Ser	Val	Thr	Glu	Ala	Ala	Arg	Glu	Ala	Ile	Asp	Tyr	Leu	Thr	Ser	Gln
						295					300				
Gly	Glu	Lys	Val	Gly	Leu	Val	Ala	Val	His	Leu	Tyr	Arg	Pro	Phe	Ser
305					310					315					320
Ala	Lys	His	Phe	Leu	Ala	Ala	Val	Pro	Lys	Thr	Ala	Lys	Thr	Ile	Ala
			325						330					335	
Val	Leu	Asp	Arg	Thr	Lys	Glu	Pro	Gly	Ala	Asn	Gly	Glu	Pro	Leu	Tyr
			340					345					350		
Leu	Asp	Val	Lys	Asp	Cys	Phe	Tyr	Gly	Ala	Glu	Asn	Ala	Pro	Val	Ile
		355					360					365			
Val	Gly	Gly	Arg	Tyr	Gly	Leu	Gly	Ser	Lys	Asp	Thr	Thr	Pro	Ala	Gln

				485					490					495			
Val	Ala	Cys	His	Val	Gln	Ala	Tyr	Leu	His	Met	Tyr	Asp	Val	Thr	Arg		
			500					505					510				
Gly	Leu	Arg	Lys	Asn	Gly	Ser	Phe	Leu	Leu	Asn	Thr	Ile	Trp	Glu	Gly		
		515					520					525					
Glu	Glu	Leu	Ala	Lys	Asn	Leu	Pro	Asn	Lys	Val	Lys	Lys	Tyr	Phe	Ala		
		530					535					540					
Gln	Asn	Asn	Ile	Ser	Val	Tyr	Tyr	Ile	Asn	Ala	Thr	Gln	Ile	Ala	Gln		
545					550					555					560		
Glu	Ile	Gly	Leu	Gly	Asn	Arg	Thr	Asn	Thr	Ile	Leu	Gln	Ser	Ala	Phe		
				565						570					575		
Phe	Arg	Ile	Thr	Gly	Val	Ile	Pro	Val	Asp	Gln	Ala	Val	Glu	Gln	Met		
			580						585						590		
Lys	Lys	Phe	Ile	Val	Lys	Ser	Tyr	Gly	Lys	Lys	Gly	Glu	Asp	Val	Val		
		595					600					605					
Asn	Lys	Asn	Tyr	Ala	Ala	Val	Asp	Arg	Gly	Gly	Glu	Tyr	Lys	Thr	Leu		
		610				615					620						
Thr	Val	Asp	Pro	Ala	Trp	Ala	Asn	Leu	Pro	Asp	Asp	Ala	Lys	Val	Glu		
625					630					635					640		
Asn	Asn	Asp	Pro	Ala	Phe	Ile	Asn	Glu	Val	Val	Arg	Pro	Ile	Asn	Ala		
				645					650						655		
Gln	Asp	Gly	Asp	Leu	Leu	Pro	Val	Ser	Ala	Phe	Lys	Gly	Ile	Glu	Asp		
			660					665							670		
Gly	Thr	Trp	Tyr	Gln	Gly	Thr	Ser	Lys	Tyr	Glu	Lys	Arg	Gly	Val	Ala		
		675					680						685				
Ala	Phe	Val	Pro	Glu	Trp	Asn	Ala	Glu	Asn	Cys	Ile	Gln	Cys	Asn	Lys		
		690				695					700						
Cys	Ala	Tyr	Val	Cys	Pro	His	Ala	Ser	Ile	Arg	Pro	Phe	Val	Leu	Asp		
705					710					715					720		
Ala	Glu	Glu	Gln	Lys	Gly	Ala	Asn	Phe	Glu	Met	Leu	Lys	Ala	Val	Gly		
				725					730						735		
Lys	Gln	Phe	Asp	Gly	Met	Thr	Phe	Arg	Ile	Gln	Val	Asp	Val	Leu	Asp		
			740					745							750		
Cys	Leu	Gly	Cys	Gly	Asn	Cys	Ala	Asp	Ile	Cys	Pro	Gly	Asn	Pro	Lys		
		755					760					765					
Lys	Gly	Gly	Lys	Ala	Leu	Thr	Met	Lys	His	Leu	Glu	Ser	Gln	Leu	Ala		
		770				775					780						
Gln	Ala	Asp	Asn	Trp	Thr	Tyr	Cys	Ala	Asp	Asn	Val	Lys	Ser	Lys	Gln		
785					790					795					800		
His	Leu	Val	Asp	Ile	Lys	Ala	Asn	Val	Lys	Asn	Ser	Gln	Phe	Ala	Thr		
				805					810						815		
Pro	Leu	Phe	Glu	Phe	Ser	Gly	Ala	Cys	Ser	Gly	Cys	Gly	Glu	Thr	Pro		
			820					825							830		
Tyr	Val	Lys	Leu	Ile	Ser	Gln	Leu	Tyr	Gly	Asp	Arg	Glu	Met	Val	Ala		
		835						840							845		
Asn	Ala	Thr	Gly	Cys	Ser	Ser	Ile	Tyr	Ser	Gly	Ser	Val	Pro	Ser	Thr		
		850				855					860						
Pro	Tyr	Thr	Thr	Asn	Ala	Lys	Gly	His	Gly	Pro	Ala	Trp	Ala	Asn	Ser		
865					870					875					880		
Leu	Phe	Glu	Asp	Phe	Cys	Glu	Phe	Gly	Leu	Gly	Met	Glu	Leu	Ala	Asn		
				885					890						895		
Glu	Lys	Met	Arg	Ala	Arg	Ile	Val	Lys	Leu	Phe	Asn	Glu	Ile	Leu	Ala		
			900					905							910		
Ala	Asp	Asn	Ala	Pro	Ala	Glu	Ala	Lys	Glu	Val	Leu	Lys	Ala	Trp	Ile		
		915						920							925		
Glu	Asn	Met	Tyr	Asp	Ala	Asp	Lys	Thr	Lys	Glu	Leu	Ala	Pro	Gln	Ile		
		930				935					940						
Glu	Ala	Ile	Ile	Glu	Gln	Gly	Ile	Ala	Ala	Gly	Cys	Pro	Ile	Ser	Lys		
945					950					955					960		

Glu Leu Lys Gly Leu Thr Gln Tyr Leu Val Lys Arg Ser Gln Trp Ile  
                   965                  970                  975  
 Ile Gly Gly Asp Gly Ala Ser Tyr Asp Ile Gly Tyr Gly Gly Leu Asp  
                   980                  985                  990  
 His Val Ile Ala Ser Gly Lys Asp Val Asn Ile Leu Val Leu Asp Thr  
                   995                  1000                  1005  
 Glu Val Tyr Ser Asn Thr Gly Gly Gln Ser Ser Lys Ala Thr Pro Val  
                   1010                  1015                  1020  
 Gly Ala Ile Ala Lys Phe Ala Ala Ser Gly Lys Arg Val Arg Lys Lys  
                   1025                  1030                  1035                  1040  
 Asp Leu Gly Leu Met Ala Thr Thr Tyr Gly Tyr Val Tyr Val Ala Gln  
                   1045                  1050                  1055  
 Ile Ala Met Gly Ala Asp Gln Ala Gln Thr Leu Lys Ala Ile Arg Glu  
                   1060                  1065                  1070  
 Ala Glu Ala Tyr Pro Gly Pro Ser Leu Ile Ile Ala Tyr Ala Pro Cys  
                   1075                  1080                  1085  
 Ile Asn His Gly Leu Lys Ala Gly Met Gly Lys Ser Gln Glu Glu Glu  
                   1090                  1095                  1100  
 Glu Lys Ala Val Lys Cys Gly Tyr Trp His Leu Trp Arg Tyr Asn Pro  
                   1105                  1110                  1115                  1120  
 Ala Leu Glu Ala Glu Gly Lys Asn Pro Phe Thr Leu Asp Ser Lys Glu  
                   1125                  1130                  1135  
 Pro Asn Trp Asp Asp Phe Lys Gly Phe Leu Lys Gly Glu Val Arg Tyr  
                   1140                  1145                  1150  
 Ala Ser Val Met Lys Gln Tyr Pro Ala Glu Ala Glu Glu Leu Phe Gln  
                   1155                  1160                  1165  
 Ala Ala Glu Asp Asn Ala Lys Trp Arg Tyr Asn Asn Tyr Lys Arg Leu  
                   1170                  1175                  1180  
 Ala Asn Gln Ala Trp Gly Ala Ala Glu  
                   1185                  1190

&lt;210&gt; 10309

&lt;211&gt; 281

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10309

Gln Leu Ser Leu Arg Met Leu Arg Pro Asn Arg Ala Tyr Thr Leu Val  
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 Ala Asn Thr Gly Lys Gln Ile Arg Tyr Gly Glu Leu Phe Asn Arg Leu  
                   20                  25                  30  
 Ser Gly Tyr Asp Val Ile Phe Leu Gly Glu Leu His Asn Cys Pro Ile  
                   35                  40                  45  
 Thr His Trp Leu Glu Phe Glu Ile Thr Arg Ser Ile Tyr Asn Ile His  
                   50                  55                  60  
 Lys Asp Gln Leu Met Leu Gly Ala Glu Met Phe Glu Ser Asp Asn Gln  
                   65                  70                  75                  80  
 Leu Ile Phe Asp Glu Tyr Met Gln Gln Lys Ile Ser Tyr Asp Arg Phe  
                   85                  90                  95  
 Glu Ala Glu Ala Arg Leu Trp Asp Asn Tyr Arg Thr Asp Tyr Tyr Pro  
                   100                  105                  110  
 Val Val Phe Phe Ala Lys Glu His His Ile Pro Phe Ile Ala Thr Asn  
                   115                  120                  125  
 Ile Pro Arg Arg Tyr Ala Asn Ile Val Lys Asn Lys Gly Phe Glu Ala  
                   130                  135                  140  
 Leu Asp Ser Leu Ser Glu Glu Ala Lys Arg Tyr Ile Ala Pro Leu Pro  
                   145                  150                  155                  160  
 Ile Asp Phe Glu Tyr Asp Glu Ala Gln Ser Ala Ala Ala Phe Ser Met  
                   165                  170                  175

Met Asn Met Met Gly Gly Arg Arg Ala Gly Asp Asn Arg Lys Leu Ala  
 180 185 190  
 Gln Ala Gln Ala Ile Lys Asp Ala Thr Met Gly Trp Phe Ile Ala Arg  
 195 200 205  
 Asn Ile Lys Asn Lys Phe Leu His Ile Asn Gly Ser Tyr His Ser Asn  
 210 215 220  
 Arg Gln Gly Gly Ile Ile Pro Tyr Leu Leu Arg Tyr Arg Pro Asn Thr  
 225 230 235 240  
 Ser Ile Val Thr Val Thr Ser Val Arg Gln Glu Ser Ile Arg Lys Arg  
 245 250 255  
 Leu His Asn Gly Asp Gly Arg Phe Asn Ser Pro Arg Asp Ser Ser Ser  
 260 265 270  
 Leu Val Lys Thr Lys Thr Gly Thr Tyr  
 275 280

<210> 10310  
 <211> 280  
 <212> PRT  
 <213> B.fragilis

<400> 10310

Ser Ser Leu Arg His Arg Gly Ser Phe Gln Pro Arg Gly Glu Asp Ser  
 1 5 10 15  
 Asp Thr Lys Asn Pro Ala Val Ala Ala Gly Thr Thr Leu Leu Phe  
 20 25 30  
 Gly Val Pro Asn Ile Ile Ser Glu Gln Lys Gln Thr Gln Asp Leu Thr  
 35 40 45  
 Gly Tyr Arg Pro Arg Lys Ala His Thr Tyr Asp Tyr Ala Gln Thr Lys  
 50 55 60  
 Gly Asp Glu Leu Leu Gly Thr Asn Ala Cys Val Val Phe Arg Ser Ala  
 65 70 75 80  
 Glu Ala Asn Leu Asn Tyr Met Glu Ala Cys Tyr Glu Lys Thr Gly Ser  
 85 90 95  
 Leu Asp Ala Lys Ala Gln Lys Tyr Trp Lys Ala Leu Arg Thr Arg Ala  
 100 105 110  
 Gly Val Asp Asp Asp Tyr Ala Lys Thr Ile Ala Ala Thr Asp Leu Ser  
 115 120 125  
 Lys Glu Asn Asp Leu Ala Val Tyr Ser Gly Ser Lys Met Val Asp Val  
 130 135 140  
 Thr Leu Tyr Asn Ile Arg Arg Glu Arg Arg Cys Glu Phe Ile Gly Glu  
 145 150 155 160  
 Gly Met Arg Trp Asp Asp Leu Lys Arg Trp Arg Ser Trp Asp Gln Leu  
 165 170 175  
 Leu Thr Lys Pro Tyr Ile Ile Glu Gly Ile Asn Phe Trp Asp Ala Ala  
 180 185 190  
 Tyr Lys Asp His Lys Asp Ile Lys Asp Asp Gly Thr Leu Asp Ala Asn  
 195 200 205  
 Val Ser Pro Lys Ser Asp Ser Lys Tyr Leu Arg Pro Leu Arg Arg Thr  
 210 215 220  
 Ser Ile Asn Asn Glu Leu Tyr Asp Gly Leu Thr Trp Arg Lys Ala Phe  
 225 230 235 240  
 Tyr Leu Asp Pro Ile Gly Ile Glu Asp Met Ser Leu Thr Ala Thr Asn  
 245 250 255  
 Pro Glu Asp Ile Asn Thr Thr Gln Leu Tyr Gln Asn Pro Tyr Trp Pro  
 260 265 270  
 Met Thr Ala Gly Lys Ala Leu Glu  
 275 280

<210> 10311



&lt;212&gt; PRT

 $\langle 400 \rangle$  10311[illegible]

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<211> 569
<212> PRT
<213> B.fragilis
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Leu	Glu	Tyr	His 20	Gly	Val	Lys	Thr	Ile 25	Phe	Gly	Tyr	Pro	Gly 30	Gly	Ser
Ile	Met 35	Pro	Val	Phe	Asp	Ala	Leu 40	Tyr	Asp	His	Arg	Glu 45	Thr	Leu	Asn
His 50	Ile	Leu	Val	Arg	His	Glu 55	Gln	Gly	Ala	Ala	His 60	Ala	Ala	Gln	Gly
Phe 65	Ala	Arg	Ala	Ser	Gly 70	Glu	Val	Gly	Val	Cys 75	Leu	Val	Thr	Ser	Gly
Pro	Gly	Ala	Thr	Asn 85	Thr	Ile	Thr	Gly	Ile 90	Ala	Asp	Ala	Met	Ile	Asp
Ser	Thr	Pro	Ile 100	Val	Val	Ile	Ala	Gly 105	Gln	Val	Gly	Thr	Ala	Phe	Leu
Gly	Thr	Asp 115	Ala	Phe	Gln	Glu 120	Val	Asp	Leu	Val	Gly	Ile 125	Thr	Gln	Pro
Ile 130	Thr	Lys	Trp	Ser	Tyr	Gln 135	Ile	Arg	Arg	Ala	Glu 140	Asp	Val	Pro	Trp
Ala 145	Val	Ala	Arg	Ala	Phe	Tyr 150	Ile	Ala	Lys	Ser 155	Gly	Arg	Pro	Gly	Pro
Val	Val	Leu	Asp	Phe 165	Ala	Lys	Asn	Ala	Gln 170	Val	Glu	Lys	Ala	Glu	Tyr
Met	Pro	Ala	Lys 180	Leu	Asp	Phe	Ile	Arg 185	Ser	Tyr	Val	Pro	Val	Pro	Glu
Thr	Asp	Pro	Glu 195	Ala	Val	Lys	Ala	Ala 200	Ala	Glu	Leu	Ile 205	Asn	Gly	Ala
Glu	Arg 210	Pro	Leu	Val	Leu	Val 215	Gly	Gln	Gly	Val	Glu 220	Leu	Gly	Asn	Ala

Gln Gln Glu Leu Arg Ala Phe Ile Glu Lys Ala Asp Met Pro Ala Gly  
 225 230 235 240  
 Cys Thr Leu Leu Gly Leu Ser Ala Leu Pro Thr Glu His Pro Leu Asn  
 245 250 255  
 Lys Gly Met Leu Gly Met His Gly Asn Leu Gly Pro Asn Met Asn Thr  
 260 265 270  
 Asn Lys Cys Asp Val Leu Ile Ala Val Gly Met Arg Phe Asp Asp Arg  
 275 280 285  
 Val Thr Gly Asn Leu Ala Thr Tyr Ala Lys Gln Ala Lys Val Ile His  
 290 295 300  
 Phe Asp Ile Asp Pro Ala Glu Ile Asn Lys Asn Val His Ala Asp Val  
 305 310 315 320  
 Ala Gly Leu Gly Asn Cys Lys Glu Thr Leu Ser Ala Val Thr Ala Leu  
 325 330 335  
 Leu Gln Pro Asn Glu His Lys Glu Trp Leu Asp Ser Phe Leu Pro Tyr  
 340 345 350  
 Glu Gln Val Glu Glu Glu Lys Val Ile Arg Pro Glu Leu His Pro Met  
 355 360 365  
 Gly Asp Thr Leu Ser Met Gly Glu Val Val Arg Ala Val Ser Asp Ala  
 370 375 380  
 Thr Asn His Glu Ala Ile Leu Val Thr Asp Val Gly Gln Asn Gln Met  
 385 390 395 400  
 Met Ser Ala Arg Tyr Phe Lys Tyr Ser Lys Asp Arg Ser Met Ile Thr  
 405 410 415  
 Ser Gly Gly Leu Gly Thr Met Gly Phe Gly Leu Pro Ala Ala Ile Gly  
 420 425 430  
 Ala Thr Phe Gly Arg Pro Asp Arg Thr Val Cys Val Phe Met Gly Asp  
 435 440 445  
 Gly Gly Leu Gln Met Asn Ile Ile Val Ser Asn Asn Asn Phe Leu Gly Asn  
 450 455 460  
 Lys Ala Pro Val Lys Ile Ile Val Ser Asn Asn Asn Phe Leu Gly Asn  
 465 470 475 480  
 Val Arg Gln Trp Gln Ala Met Phe Phe Asn Arg Lys Tyr Ser Phe Thr  
 485 490 495  
 Pro Met Leu Asn Pro Asp Tyr Ile Lys Ile Ala Ser Ala Tyr Asp Ile  
 500 505 510  
 Pro Ala Lys Arg Val Phe Thr Arg Glu Glu Leu Ala Asp Ala Ile Asp  
 515 520 525  
 Glu Met Ile Ala Thr Asp Gly Pro Phe Leu Leu Glu Ala Cys Val Ile  
 530 535 540  
 Glu Lys Gly Asn Val Leu Pro Met Thr Pro Pro Gly Gly Ser Phe Asn  
 545 550 555 560  
 Pro Met Leu Val Gly Met Leu Ile Ser  
 565

<210> 10313  
 <211> 235  
 <212> PRT  
 <213> B.fragilis

<400> 10313  
 Asp Gly Ser Arg Tyr Val Met Ala Ala Asp Gly Ala Asp Gly Leu Val  
 1 5 10 15  
 Asn Gly Thr Val Cys Gly Leu Lys Ala Ser Leu Ala Val Asp Val Gln  
 20 25 30  
 Gly Tyr Ala Tyr Arg Val Val Lys Ile Gly Ser Leu Tyr Trp Met Gly  
 35 40 45  
 Glu Asn Leu Lys Thr Thr Gln Phe Asn Asp Gly Thr Pro Ile Pro Thr  
 50 55 60

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<210> 10314
<211> 80
<212> PRT
<213> B.fragilis

<220>
<221> UNSURE
<222> (80)
<223> Identity of amino acid sequences at the above locations are unknown.
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<210> 10315
<211> 718
<212> PRT
<213> B.fragilis
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<400> 10315
Leu Leu Ala Met Arg Trp Arg Val Lys Val Thr Ala Phe Val Val Ser
1          5          10          15
Gly Met Gln Ile Ile Asn Leu Thr Leu Met Asn Met Asn His Ile Ile
          20          25          30
Lys Leu Leu Phe Leu Cys Leu Phe Phe Ala Thr Ala Cys Ser Gln Glu
          35          40          45
Glu Met Asn Glu Val Leu Lys Asn His Ala Glu Met Glu Gly Gln Val
          50          55          60

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Asn	Ser	Ile	Glu	Glu	Leu	Cys	Lys	Asn	Met	Asn	Arg	Asp	Ile	Val	Ala
65					70					75					80
Leu	Lys	Leu	Ile	Ile	Asn	Ser	Ser	Glu	Ser	Gly	Asp	Tyr	Ile	Thr	Gly
			85						90					95	
Phe	Lys	Glu	Leu	Ala	Asp	Gly	Ser	Gly	Tyr	Thr	Ile	Ser	Phe	Phe	Lys
			100					105					110		
Ser	Gly	Thr	Ile	Val	Ile	Lys	Asn	Gly	Glu	Lys	Gly	Asp	Asp	Gly	Lys
		115					120					125			
Lys	Gly	Glu	Asp	Gly	Gln	Asp	Gly	Gln	Asn	Gly	Gln	Asn	Gly	Thr	Asp
	130					135					140				
Gly	Lys	Asp	Gly	Gln	Asp	Gly	Thr	Asp	Gly	Lys	Asp	Gly	Gln	Asp	Gly
145					150					155					160
Ile	Asp	Gly	Gln	Asp	Gly	Gln	Asp	Gly	Thr	Asp	Gly	Lys	Asp	Gly	Gln
			165						170					175	
Asp	Gly	Thr	Asp	Gly	Lys	Asp	Gly	Gln	Asp	Gly	Thr	Asp	Gly	Lys	Asp
			180					185					190		
Gly	Gln	Asp	Gly	Thr	Asp	Gly	Thr	Asp	Gly	Pro	Glu	Gly	Asp	Lys	Gly
		195					200					205			
Gln	Asn	Gly	Thr	Ala	Pro	Val	Val	Thr	Met	Lys	Met	Asp	Thr	Asp	Gly
	210					215						220			
His	Leu	Tyr	Trp	Ala	Ile	Lys	Asn	Ala	Asp	Gly	Thr	Ser	Ser	Phe	Leu
225					230					235					240
Leu	Asp	Asn	Asn	Gly	Gln	Lys	Val	Arg	Ala	Ser	Gly	Thr	Asp	Gly	Ile
			245						250					255	
Val	Pro	Val	Ile	Gly	Val	Asn	Ala	Ala	Gly	Tyr	Trp	Thr	Leu	Asp	Tyr
		260						265					270		
Gly	Ser	Gly	Pro	Val	Glu	Leu	Lys	Asp	Ala	Ala	Gly	Asn	Pro	Met	Lys
		275					280					285			
Ala	Lys	Gly	Ala	Ser	Gly	Asp	Pro	Met	Phe	Arg	Lys	Val	Val	Ser	Glu
		290				295					300				
Asp	Gly	Tyr	Ile	Val	Phe	Tyr	Leu	Thr	Asp	Gly	Thr	Ile	Phe	Lys	Val
305					310					315					320
Pro	Glu	Trp	Gly	Gly	Ala	Gln	Val	Glu	Leu	Ala	Ala	Ser	Gly	Val	Thr
			325					330						335	
Tyr	Phe	His	Arg	Ser	Glu	Ser	Leu	Thr	Phe	Thr	Phe	Thr	Cys	Ser	Gly
			340					345					350		
Val	Asn	Lys	Ser	Ile	Ala	Pro	Val	Cys	Thr	Ala	Pro	Val	Gly	Trp	Thr
		355					360					365			
Val	Thr	Ala	Gln	Tyr	Thr	Ser	Asp	Thr	Thr	Gly	Glu	Met	Thr	Val	Ile
	370					375					380				
Ala	Pro	Asp	Lys	Ser	Ser	Ala	Asp	Gly	Ala	Leu	Ser	Gly	Thr	Ala	Ile
385					390					395					400
Leu	Glu	Leu	Thr	Ala	Lys	Asp	Gly	Lys	Lys	Leu	Ser	Ala	Thr	Leu	Gly
			405						410					415	
Val	Thr	Leu	Leu	Glu	Phe	Lys	Val	Pro	Asp	Ser	Ser	Arg	Ser	Phe	
		420					425					430			
Val	Tyr	Glu	Leu	Tyr	Val	Glu	Gly	Val	Lys	Val	Gly	Glu	Leu	Cys	His
		435					440					445			
Glu	Phe	Ile	Pro	Asp	Tyr	Ser	Phe	Gly	Ser	Gly	Lys	Ser	Ala	Ser	Val
	450					455					460				
Phe	Tyr	Pro	Tyr	Asn	Val	Tyr	Asn	Lys	Ala	Phe	Gly	Glu	Gly	Met	Val
465					470					475					480
Leu	Asp	Asn	Gly	Gly	Lys	Val	Asp	Tyr	Leu	Thr	Thr	Val	Tyr	Thr	Pro
			485						490					495	
Gly	Thr	Asn	Thr	Gln	Pro	Phe	Thr	Ser	Leu	Phe	Thr	Glu	Asp	Gly	Val
		500						505					510		
Ser	Phe	Ile	Thr	Gly	Asp	Tyr	Ile	Gly	Tyr	Ser	Asp	Ser	Gln	Ala	Asn
		515					520					525			
Gly	Leu	Arg	Pro	Tyr	Leu	Thr	Thr	Asp	Asn	Glu	Gly	Asn	Ser	Tyr	Arg

530	535	540
Val Met Lys Ile Gly Thr Gln Tyr Trp Met Ala Asp Asn Leu Arg Thr		
545	550	555
Ile Thr Asn Ser Ala Gly Val Ile Ser Ser Glu Trp Arg Lys Asp Ala		560
	565	570
Asn Pro Arg Tyr Ala Val Tyr Gly Phe Pro Ala Gly Ile Thr Glu Asp		575
	580	585
Ser Arg Thr Ile Arg Asn Gln Tyr Gly Leu Leu Tyr Asn Ala Gly Val		590
	595	600
Phe Ser Gly Ser Thr Ser Leu Val Thr Glu Gly Trp Lys Ile Pro Asn		605
	610	615
His Leu Gly Asp Trp Asp Lys Leu Arg Asn Phe Leu Gly Gly Asp Ser		620
625	630	635
Lys Val Ala Glu Ala Leu Ser Ile Ala Gly Phe Val Gly Lys Pro Gly		640
	645	650
Gly Arg Arg Asn Ala Asp Glu Pro Phe Ala Phe Gln Glu Lys Asp Glu		655
	660	665
Val Gly Tyr Trp Trp Phe Ser Ser Val Asp Gly His Asn Cys Trp Ala		670
	675	680
Leu Ser Ile Asn Pro Ser Asn Val Ser Val Pro Gln Ser Thr Asn Thr		685
	690	695
Tyr Ser Arg Gly Tyr Gly Phe Ser Ile Arg Phe Ile Arg Gln		700
705	710	715

&lt;210&gt; 10316

&lt;211&gt; 397

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10316

Leu Ile Ile Val Asn Met Lys Asn Ile Ile Gly Ile Leu Gly Val Phe		
1	5	10
Ile Leu Ala Ile Ser Cys Ser Gly Gly Lys Lys Glu Ser Ala Asp Ala		15
	20	25
Gly Leu Glu Leu Thr Glu Asp Ser Val Val Tyr Leu Leu Ala Asp Asn		30
	35	40
Val Thr Leu Gly Ile Lys Ala Leu Phe Pro Phe Ile Asp Lys Asp Gly		45
	50	55
His Glu Tyr Leu Thr Phe Gln Asn Gln Leu Glu Pro Glu Ile Cys Val		60
65	70	75
Tyr Asp Leu Gln Ser Gly Glu Phe Val Lys Ser Ile Phe Phe Asp Arg		80
	85	90
Glu Gly Ala Asn Gly Val Gly Met Phe Gly Gly Tyr His Ile Ile Asp		95
	100	105
Phe Asp Glu Ile Tyr Leu Pro Ser Leu Gln Gln Ser Lys Val Phe Val		110
	115	120
Met Glu Glu Ser Gly Lys Lys Lys Arg Glu Ile Ile Thr Glu Lys Thr		125
	130	135
Asp Asp Gly Ile Pro Leu Leu Pro Phe Gly Ala Ile Thr Phe Ala Tyr		140
145	150	155
Arg Pro Ile Tyr Phe Asn Asn Arg Lys Met Tyr Ile Pro Gln Thr Ile		160
	165	170
Asn Met Arg Leu Gly Asn Lys Val Met Glu Lys Ser Pro Val Tyr Val		175
	180	185
Val Val Asp Thr Val Lys Asn Val Leu Ser Pro Phe Pro Ile Lys Phe		190
	195	200
Pro Pro Ile Met Ser Ser Asp Asp Val Thr Lys Pro Ser Leu Gly Asn		205
	210	215
Glu Leu Ser Tyr Ser Cys Cys Leu Asn Asp Lys Asp Gln Phe Val Phe		220

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<210> 10317
<211> 305
<212> PRT
<213> B.fragilis
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<400> 10317

Arg	Tyr	Ser	Lys	Thr	Leu	Lys	Thr	Leu	Leu	Tyr	Ile	Leu	Val	Phe	Ser
1				5					10					15	
Leu	Cys	Tyr	Thr	Asn	Ala	Tyr	Cys	Gln	Ser	Ile	Pro	Arg	Glu	Val	Thr
			20					25					30		
Leu	Asp	Glu	Val	Ile	Asn	Arg	Leu	Ser	Leu	Glu	Ser	Ser	Ser	Ala	Lys
		35					40					45			
Ile	Glu	Leu	Leu	Asn	Phe	Gln	Asn	Asp	Leu	Leu	Arg	Tyr	Glu	Asn	Tyr
	50					55					60				
Lys	Lys	Ser	Phe	Leu	Pro	Ala	Phe	Val	Leu	Asn	Phe	Asn	Pro	Ile	Asn
65					70					75				80	
Phe	Asn	Arg	Ser	Leu	Arg	Leu	Leu	Gln	Gln	Pro	Ile	Asp	Gly	Ser	Tyr
				85					90					95	
Ser	Tyr	Val	Glu	Asp	Asn	Ser	Asn	Asn	Thr	Asn	Phe	Gly	Thr	Thr	Val
			100					105					110		
Arg	Gln	Lys	Ile	Ser	Ile	Thr	Gly	Gly	Glu	Leu	Ser	Ile	Gly	Ser	Asn
		115					120					125			
Ile	Asn	Tyr	Leu	Asn	Glu	Phe	Ser	Arg	Lys	Gln	Asn	Ser	Phe	Ser	Thr
	130					135					140				
Asn	Pro	Phe	Phe	Ile	Ser	Tyr	Ser	Gln	Gln	Leu	Trp	Gly	Gly	Gly	Lys
145					150					155				160	
Leu	Gln	Arg	Leu	Glu	Asn	Lys	Ile	Glu	Arg	Ala	Lys	Asn	Glu	Val	Ala
				165					170					175	
Val	Lys	Gln	Tyr	Cys	Ser	Asn	Ile	Ala	Gln	Ile	Gln	Gln	Gln	Ala	Leu
			180					185					190		
Thr	Leu	Tyr	Leu	Ser	Ala	Ile	Leu	Ser	Lys	Met	Asp	Ser	Glu	Leu	Ala
		195					200					205			
Ile	Asp	Ile	Lys	Gln	Ser	Asn	Asp	Thr	Leu	Leu	His	Ile	Ala	Glu	Ile
	210					215					220				
Lys	Leu	Arg	Asn	Gly	Ser	Ile	Thr	Glu	Tyr	Asp	Tyr	Lys	Gln	Met	Glu
225					230					235				240	
Leu	Gln	Ser	Leu	Asn	Leu	Gln	Tyr	Met	Tyr	Glu	Asn	Ala	Val	Lys	His

Tyr Ala Glu Ser Ile Gln Lys Leu Phe Thr Phe Leu Gly Ile Glu Asn  
 245 250 255  
 260 265 270  
 Asn Ala Glu Ile Thr Ile Pro Asp Phe Asp Leu Pro Leu Thr Ile Asp  
 275 280 285  
 Ala Arg Leu His His Gly Gly Gly Arg Ile Ser Ala His Val Ser Leu  
 290 295 300  
 Thr  
 305

<210> 10318  
 <211> 83  
 <212> PRT  
 <213> B.fragilis

<400> 10318  
 Pro Arg Ser Glu Gly Tyr Val Val Tyr Ser Val Glu Gln Ala Glu Gly  
 1 5 10 15  
 Ser Ile Met Leu Asp Glu Leu Thr Leu Asp Arg Ser Lys Lys Tyr Ala  
 20 25 30  
 Val Val Met Gly Asn Glu Val Lys Gly Val Gln Gln Glu Val Ile Asp  
 35 40 45  
 His Ser Asp Gly Cys Ile Glu Ile Pro Gln Tyr Gly Thr Lys His Ser  
 50 55 60  
 Leu Asn Val Ser Val Thr Ala Gly Ile Val Ile Trp Asp Leu Phe Lys  
 65 70 75 80  
 Lys Leu Lys

<210> 10319  
 <211> 80  
 <212> PRT  
 <213> B.fragilis

<400> 10319  
 Thr Asp Pro Leu Asp Pro Ser Ser Pro Val Val Lys Thr Leu Tyr Lys  
 1 5 10 15  
 Tyr Arg Val Phe Ile Ser Asp Phe Lys Glu Asn Lys Glu Lys Phe Gln  
 20 25 30  
 Asp Asn Lys Phe Pro Asn Ser Ile Asn Val Ser Lys Arg Ile Lys Gln  
 35 40 45  
 Thr Thr Tyr His Ser Phe Phe Ile Tyr Ser His Pro Val Trp Val Ile  
 50 55 60  
 Tyr Pro Lys Pro Leu Pro Leu His Pro Gln Asn Pro Asn Lys Ser Asp  
 65 70 75 80

<210> 10320  
 <211> 140  
 <212> PRT  
 <213> B.fragilis

<400> 10320  
 Phe Arg Thr Asp Ile Lys Met Thr Ala Gln Glu Phe Phe Lys Asn Asp  
 1 5 10 15  
 Leu Phe Ala Thr Asn Ala Gly Val Glu Leu Ile Glu Ile Arg Glu Gly  
 20 25 30  
 Tyr Ser Lys Ala Lys Leu Glu Ile Lys Pro Glu His Leu Asn Ala Gly  
 35 40 45  
 Gln Arg Thr Gln Gly Gly Ala Ile Phe Thr Leu Ala Asp Leu Ala Leu



50	55	60
Ala Ala Ala Ala Asn Ser His Gly Thr Leu Ala Phe Ser Leu Ser Ser		
65	70	75
Asn Ile Thr Phe Leu Arg Ala Ser Gly Pro Gly Asp Thr Leu Tyr Ala		80
	85	90
Glu Ala Arg Glu Arg Tyr Thr Gly Arg Ser Thr Gly Tyr Tyr Gln Ile		95
	100	105
Asp Val Thr Asp Gln Glu Gly Arg Leu Ile Ala Thr Phe Glu Ser Ser		110
	115	120
Val Phe Arg Lys Lys Asp Glu Val Pro Phe Thr Leu		125
	130	135
		140

&lt;210&gt; 10321

&lt;211&gt; 304

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10321

Ala Gln Ser Arg Thr Asn Leu Lys Asn Arg Asn Gln Met Lys Thr Arg		
1	5	10
Arg Lys Arg Pro Glu Ile Val Lys Thr Gln Thr Val Ala Ala Ala Ile		15
	20	25
Arg Arg Lys Glu Trp Ile Cys Leu Ile Ile Ala Leu Leu Phe Ala Phe		30
	35	40
Pro Ser Ser Gly Asn Ala Gln Cys Glu Ala Lys Asn Asp Ala Phe Lys		45
	50	55
Ser Gly Glu His Val Met Tyr Glu Leu Tyr Phe Asn Trp Lys Phe Ile		60
65	70	75
Trp Lys Lys Val Gly Leu Ala Ser Leu Thr Thr Asn Ser Thr Thr Tyr		80
	85	90
His Ser Glu Pro Ala Tyr Arg Val Asn Leu Leu Ala Ile Ser Ser Lys		95
	100	105
Glu Ala Asp Phe Phe Phe Lys Met Arg Asp Thr Leu Thr Ser Val Met		110
	115	120
Thr Glu Lys Leu Glu Pro Arg Tyr Phe Arg Lys Gly Ala Glu Glu Gly		125
	130	135
Lys Arg Tyr Thr Val Asp Glu Ala Arg Phe Ser Phe Arg Glu Gly Met		140
145	150	155
Cys Tyr Val Asn Gln Lys Arg Val Arg Lys Asp Gly Ser Ile Thr Glu		160
	165	170
Thr Glu Gln Ser Asp Asn Arg Cys Ile Tyr Asp Met Leu Thr Ile Leu		175
	180	185
Ala Gln Ala Arg Ser Phe Asp Pro Lys Glu Tyr Thr Ile Gly Gln Arg		190
	195	200
Ile Gln Phe Pro Met Ala Thr Gly Arg Arg Val Glu Glu Gln Thr Leu		205
	210	215
Ile Tyr Arg Gly Ile Lys Lys Ile Thr Ala Glu Asn Asp Thr Thr Tyr		220
225	230	235
Arg Cys Leu Ile Phe Ser Leu Val Glu Tyr Asn Lys Lys Gly Lys Glu		240
	245	250
Lys Glu Val Ile Thr Phe Tyr Val Thr Asp Asp Arg Asn His Leu Pro		255
	260	265
Val Arg Leu Asp Met His Leu Asn Phe Gly Ser Ala Lys Ala Phe Leu		270
	275	280
Lys Ser Val Ser Gly Tyr Arg His Pro Gln Thr Ser Ile Val Thr Lys		285
	290	295
		300

&lt;210&gt; 10322

&lt;211&gt; 320

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10322

His	Lys	Arg	Ile	Lys	Ala	His	Gln	Thr	Asp	Tyr	Val	Ser	Phe	Ile	Leu
1				5					10					15	
Tyr	Leu	Leu	Ala	Ser	Cys	Leu	Gly	Asp	Ile	Pro	Lys	Thr	Thr	Thr	Phe
			20					25					30		
Ala	Pro	Ser	Lys	Pro	Lys	Gln	Lys	Arg	Leu	Met	Lys	Tyr	Lys	Leu	Leu
			35				40					45			
Val	Leu	Asp	Leu	Asp	Gly	Thr	Leu	Thr	Asn	Ala	Lys	Lys	Glu	Ile	Thr
	50					55					60				
Pro	Arg	Asn	Arg	Glu	Ala	Leu	Ile	Arg	Val	Gln	Gln	Gln	Gly	Val	Lys
65					70					75					80
Leu	Ile	Leu	Ala	Ser	Gly	Arg	Pro	Thr	Phe	Gly	Ile	Ala	Pro	Leu	Ala
				85					90					95	
Asp	Glu	Leu	Arg	Met	Lys	Glu	Phe	Gly	Gly	Phe	Ile	Leu	Ser	Tyr	Asn
			100					105					110		
Gly	Gly	Glu	Ile	Ile	Asp	Trp	Ser	Thr	Gly	Glu	Ile	Val	Tyr	Ala	Asn
		115					120					125			
Val	Leu	Pro	Asp	Glu	Val	Ile	Pro	Arg	Leu	Tyr	Glu	Cys	Ala	Thr	Arg
	130					135					140				
Asn	Gln	Leu	Pro	Ile	Leu	Thr	Tyr	Asp	Arg	Gln	Tyr	Ile	Ile	Thr	Glu
145					150					155					160
Tyr	Pro	Asp	Asp	Val	Tyr	Val	Arg	Lys	Glu	Ala	Phe	Leu	Asn	Lys	Met
			165						170					175	
Gln	Ile	Tyr	Pro	Ser	Lys	Asp	Phe	Leu	Lys	Asp	Ile	Arg	Leu	Pro	Leu
			180					185					190		
Pro	Lys	Cys	Leu	Ile	Val	Gly	Glu	Pro	His	Arg	Leu	Ile	Pro	Ile	Glu
		195					200					205			
Ala	Glu	Leu	Ser	Val	Glu	Leu	Gln	Gly	Gln	Leu	Ser	Val	Tyr	Arg	Ser
	210					215						220			
Glu	Pro	Phe	Phe	Leu	Glu	Leu	Val	Pro	Gln	Gly	Ile	Asp	Lys	Ala	Gln
225					230					235					240
Ser	Leu	Ser	Val	Leu	Leu	Asn	Lys	Leu	Asn	Met	Asn	Arg	Glu	Glu	Ile
			245						250					255	
Val	Ala	Val	Gly	Asp	Gly	Tyr	Asn	Asp	Leu	Ser	Met	Ile	Gln	Phe	Ala
			260					265					270		
Gly	Leu	Gly	Val	Ala	Met	Gly	Asn	Ala	Gln	Glu	Pro	Val	Lys	Lys	Ala
	275						280					285			
Ala	Asp	Tyr	Ile	Thr	Leu	Ser	Asn	Glu	Glu	Asp	Gly	Val	Ala	Ala	Val
	290					295					300				
Val	Asn	Lys	Phe	Phe	Thr	Lys	Ala	Pro	Glu	Lys	Gly	Glu	Thr	Thr	Ala
305					310					315					320

&lt;210&gt; 10323

&lt;211&gt; 495

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10323

Ile	Ser	Asn	Val	Met	Glu	His	Gln	Leu	Thr	Ile	Tyr	Asn	Thr	Leu	Asp
1				5					10					15	
Arg	Lys	Lys	Glu	Leu	Phe	Val	Pro	Leu	His	Ala	Pro	His	Val	Gly	Met
			20					25					30		
Tyr	Val	Cys	Gly	Pro	Thr	Val	Tyr	Gly	Asp	Ala	His	Leu	Gly	His	Ala
		35					40					45			
Arg	Pro	Ala	Ile	Thr	Phe	Asp	Val	Leu	Phe	Arg	Tyr	Leu	Thr	Arg	Leu
	50					55					60				

Gly	Tyr	Lys	Val	Arg	Tyr	Val	Arg	Asn	Ile	Thr	Asp	Val	Gly	His	Leu
65					70					75					80
Glu	His	Asp	Ala	Asp	Glu	Gly	Glu	Asp	Lys	Ile	Ala	Lys	Lys	Ala	Arg
				85					90					95	
Leu	Glu	Gln	Leu	Glu	Pro	Met	Glu	Val	Val	Gln	Tyr	Tyr	Leu	Asn	Arg
			100					105					110		
Tyr	His	Lys	Ala	Met	Glu	Ala	Leu	Asn	Val	Leu	Pro	Pro	Ser	Ile	Glu
		115					120						125		
Pro	His	Ala	Ser	Gly	His	Ile	Ile	Glu	Gln	Ile	Glu	Leu	Val	Lys	Lys
	130					135					140				
Ile	Leu	Asp	Ala	Gly	Tyr	Ala	Tyr	Glu	Ser	Gln	Gly	Ser	Val	Tyr	Phe
145					150					155					160
Asp	Val	Ala	Lys	Tyr	Asn	Lys	Asp	His	His	Tyr	Gly	Lys	Leu	Ser	Gly
			165					170						175	
Arg	Asn	Leu	Asp	Asp	Val	Leu	Asn	Thr	Thr	Arg	Glu	Leu	Asp	Gly	Gln
			180					185					190		
Glu	Glu	Lys	His	Asn	Pro	Ala	Asp	Phe	Ala	Leu	Trp	Lys	Arg	Ala	Gln
		195					200					205			
Pro	Glu	His	Ile	Met	Arg	Trp	Pro	Ser	Pro	Trp	Gly	Asp	Gly	Phe	Pro
	210					215					220				
Gly	Trp	His	Ala	Glu	Cys	Thr	Ala	Met	Gly	Arg	Lys	Tyr	Leu	Gly	Glu
225					230					235					240
His	Phe	Asp	Ile	His	Gly	Gly	Gly	Met	Asp	Leu	Ile	Phe	Pro	His	His
			245					250						255	
Glu	Cys	Glu	Ile	Ala	Gln	Ser	Val	Ala	Ser	Gln	Gly	Asp	Asp	Met	Val
		260						265					270		
His	Tyr	Trp	Met	His	Asn	Asn	Met	Ile	Thr	Ile	Asn	Gly	Thr	Lys	Met
	275						280					285			
Gly	Lys	Ser	Leu	Gly	Asn	Phe	Ile	Thr	Leu	Asp	Glu	Phe	Phe	Ser	Gly
	290					295					300				
Ser	His	Lys	Leu	Leu	Thr	Gln	Ala	Tyr	Ser	Pro	Met	Thr	Ile	Arg	Leu
305					310					315					320
Phe	Ile	Leu	Gln	Ala	His	Tyr	Arg	Ser	Pro	Val	Asp	Phe	Ser	Asn	Glu
			325						330					335	
Ala	Leu	Gln	Ala	Ala	Glu	Lys	Gly	Leu	Ser	Arg	Leu	Met	Glu	Ala	Val
		340						345					350		
Asp	Ser	Leu	Glu	Lys	Ile	Thr	Pro	Ala	Ala	Thr	Ser	Asn	Val	Asp	Val
	355						360					365			
Lys	Ser	Leu	Arg	Thr	Lys	Cys	Phe	Glu	Ala	Met	Asn	Asp	Asp	Leu	Asn
	370					375					380				
Thr	Pro	Ile	Val	Ile	Ser	His	Leu	Phe	Asp	Gly	Ala	Lys	Met	Ile	Asn
385					390					395					400
Asn	Ile	Ile	Ala	Gly	Asn	Asn	Thr	Ile	Ser	Ala	Asp	Asp	Leu	Lys	Asp
			405					410					415		
Leu	Lys	Glu	Val	Phe	His	Thr	Phe	Cys	Phe	Asp	Ile	Leu	Gly	Leu	Lys
		420						425					430		
Glu	Glu	Ile	Gly	Ser	Ser	Asp	Gly	Arg	Glu	Ala	Ala	Tyr	Gly	Lys	Val
		435					440					445			
Val	Asp	Met	Leu	Leu	Glu	Gln	Arg	Val	Lys	Ala	Lys	Ala	Asn	Lys	Asp
	450					455					460				
Trp	Ala	Thr	Ser	Asp	Leu	Ile	Arg	Asn	Glu	Leu	Thr	Ala	Leu	Gly	Phe
465					470					475					480
Glu	Ile	Lys	Asp	Thr	Lys	Asp	Gly	Phe	Glu	Trp	Lys	Leu	Asn	Lys	
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&lt;211&gt; 214

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

[illegible]

<211> 62

<212> PRT

<213> B.fragilis

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Leu	Lys	Ile	Pro	Lys	Asn	Thr	Ile	Phe	Phe	Leu	Pro	Lys	Lys	Leu	Ser
			20					25					30		
Ile	Thr	Tyr	Ser	Phe	Phe	Thr	Phe	Lys	Asn	Leu	Tyr	Leu	Ile	Glu	Asn
		35					40					45			
His	Leu	Lys	Ile	Phe	Tyr	Tyr	Leu	Lys	Ser	Leu	Ser	Asn	Thr		
	50					55				60					

<211> 73

<212> PRT

<213> B.fragilis

Arg	His	Ser	Leu	Pro	Thr	Gly	Ile	Ile	Ala	Thr	Lys	Tyr	Ser	Asp	Gly
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Phe	Phe	Leu	Pro	Ser	Arg	Lys	Thr	Asn	Leu	Ile	Ser	Ile	Ala	Leu	Ile
			20					25					30		
Ala	Thr	Ala	Leu	Leu	Cys	Tyr	Asp	Trp	Ser	Leu	Ser	Leu	Lys	Trp	Trp
		35					40					45			
Ser	Leu	Leu	Tyr	Ile	Leu	Met	Phe	Ile	Ile	Cys	Leu	Ala	Ile	Pro	Asp

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 Tyr Leu Val Arg Gln Lys Thr Lys Lys  
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 <212> PRT  
 <213> B.fragilis

<400> 10327

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 Gly Cys Ala Ala Met Gly Ala Phe Ala Gln Gln His Ala Thr Gly Lys  
 35 40 45  
 Lys Thr Glu Met Ser Val Asp Leu Asn Pro Val Val Val Thr Gly Thr  
 50 55 60  
 Gly Thr His Gln Arg Leu Lys Asn Thr Pro Ala Pro Val Glu Val Val  
 65 70 75 80  
 Thr Ala Asn Glu Ile Lys Lys Ala Gly Ile Thr Asp Phe Gln Gln Ala  
 85 90 95  
 Met Thr Met Leu Val Pro Ser Leu Ser Phe Ser Thr Asn Ser Met Gly  
 100 105 110  
 Ser Tyr Leu Met Met Asn Gly Leu Ser Asn Lys Tyr Val Leu Ile Leu  
 115 120 125  
 Ile Asn Gly Arg Lys Leu Thr Gly Asp Thr Ala Asn Asn Ile Asp Leu  
 130 135 140  
 Ser Arg Ile Asp Met Ser Arg Val Lys Arg Ile Glu Val Leu Asp Gly  
 145 150 155 160  
 Ala Gly Ser Ser Leu Tyr Gly Ser Asp Ala Ile Ala Gly Val Ile Asn  
 165 170 175  
 Ile Ile Thr Asn Glu Pro Lys Glu Leu Met Gln Val Thr Ser Thr Thr  
 180 185 190  
 Arg Tyr Glu Asp His Arg Gln Leu Thr Gln Met Val Asn Ala Asp Ile  
 195 200 205  
 Ala Thr Glu Lys Phe Gly Ser Tyr Thr Ser Tyr Lys His Glu Gln Ser  
 210 215 220  
 Ala Gly Trp Gln Asn Ser Asp Leu Ala Tyr Val Thr Asp Lys Lys Gly  
 225 230 235 240  
 Asn Val Ser Thr Val Pro Thr Val Ser Ala Thr Ser Asn Gly Phe His  
 245 250 255  
 Ser Asn Leu Val Asn Gln Lys Phe Thr Phe Glu Pro Thr Glu Lys Leu  
 260 265 270  
 Ser Phe Tyr Ala Asn Gly Gly Tyr Tyr Trp Lys Leu Thr Asp Arg Pro  
 275 280 285  
 Val Tyr Thr Ala Asp Ile Asp Gly Gly Ser Lys Tyr Asp Leu His Tyr  
 290 295 300  
 Glu Ser Tyr Asn Phe Gly Leu Gly Gly Arg Tyr Lys Ile Asn Lys Arg  
 305 310 315 320  
 Ser Ser Ile Gln Leu Asp Leu Met Asn Asp Asn Tyr Met Gln Asn Tyr  
 325 330 335  
 Lys Tyr Thr Val Ala Asp Asp Lys Asn Lys Ile Ala Ile Gly Asp Tyr  
 340 345 350  
 Ala Lys Thr Lys Glu Gln His Phe Tyr Asp Ala Glu Leu Lys Gly Ile  
 355 360 365  
 Phe Asn Phe Ala Lys Asn Asn Met Thr Val Leu Gly Val Asp Tyr Arg  
 370 375 380  
 Ser Glu Ser Leu Asp Arg Pro Ser Ala Arg Val Asp Lys Ser Val Tyr

385 390 395 400  
 Thr Ala Ser Ala Tyr Ala Gln His Glu Ile Lys Leu Trp Asn Cys Leu  
 405 410 415  
 Thr Gly Ile Ala Gly Val Arg Tyr Asp Tyr His Glu Leu Ala Gly Gly  
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 Thr Gly Leu His Leu  
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 Leu Thr Asp His Pro Leu Gly Arg Met Arg Gly Asn Gly Cys Ile Cys  
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 65 70 75

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 35 40 45  
 Glu Asp Gly Gln Pro Val Val Gly Ala Ser Val Leu Ala Lys Gly Thr  
 50 55 60  
 Thr Val Gly Val Ile Thr Asp Val Asp Gly Lys Phe Thr Leu Ser Gly  
 65 70 75 80  
 Ile Pro Ser Ser Ala Lys Thr Leu Gln Ile Ser Tyr Ile Gly Met Gln  
 85 90 95  
 Thr Ala Glu Val Ala Ile Ala Pro Val Ile Lys Val Ile Leu Lys Thr  
 100 105 110  
 Asp Ala Lys Ala Leu Asp Glu Val Val Val Thr Ala Met Gly Ile Ser  
 115 120 125  
 Lys Glu Lys Lys Ala Leu Gly Tyr Ala Val Gln Asp Val Lys Gly Asp  
 130 135 140  
 Lys Leu Thr Gln Ala Ser Ser Ser Asn Leu Ser Ser Ala Leu Gln Gly  
 145 150 155 160  
 Lys Val Ser Gly Val Glu Ile Ser Pro Ser Ser Gly Met Pro Gly Ala  
 165 170 175  
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 Thr Pro Leu Tyr Val Val Val Phe Thr Lys Gly Val His Pro Thr Val  
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6138

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<210> 10330
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<213> B.fragilis
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<210> 10331
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<222> (570), (587)
<223> Identity of amino acid sequences at the above locations are unknown.
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			20					25					30			
Thr	Ile	Phe	Ile	Gly	Gly	Thr	Gly	Gly	Leu	Ser	Ser	Phe	Leu	Glu	Lys	
		35					40					45				
Asp	Leu	Asn	Lys	Glu	Tyr	Pro	Lys	Pro	Lys	Leu	Tyr	Phe	Ser	Ser	Leu	
	50					55					60					
Ser	Val	Asn	Asn	Ala	Arg	Ile	Ser	Pro	Asp	Asp	Lys	Ser	Arg	Ile	Leu	
65					70					75					80	
Thr	Glu	Gly	Leu	Pro	Phe	Val	Arg	Glu	Ile	Asn	Leu	Asn	Ala	Thr	Gln	
				85					90					95		
Asn	Asn	Leu	Thr	Val	Glu	Phe	Ala	Ser	Ser	Asn	Tyr	Val	Asp	Ile	Leu	
			100					105					110			
Asn	Asn	Thr	Trp	Tyr	Glu	Tyr	Gln	Leu	Glu	Gly	Phe	Asp	Lys	Gln	Trp	
		115					120					125				
Ser	Leu	Thr	Ser	Gln	Thr	Ser	Leu	Lys	Tyr	Thr	Asn	Leu	Asp	Pro	Gly	
	130					135					140					
Asp	Tyr	Val	Leu	His	Val	Arg	Gln	Lys	Gly	Asn	Ser	Leu	Lys	Met	Arg	
145					150					155					160	
Lys	Ala	Gln	Glu	Ile	Leu	Leu	Gln	Ile	His	Ile	Asn	Thr	Pro	Trp	Tyr	
				165					170					175		
Leu	Thr	Trp	Trp	Ala	Trp	Leu	Ser	Tyr	Ile	Thr	Ile	Ser	Ile	Ser	Val	
		180						185					190			
Thr	Tyr	Phe	Ile	Trp	Arg	Glu	Lys	Ser	Ser	Arg	Arg	Thr	Leu	Ala	Met	
		195					200					205				
Ser	Leu	Glu	Lys	Glu	Arg	Ile	Glu	Lys	Glu	His	Ile	Glu	Glu	Met	Asn	
	210					215					220					

Gln Ala Lys Leu Arg Phe Phe Thr Asn Val Ser His Glu Phe Arg Thr  
 225 230 235 240  
 Pro Leu Thr Leu Ile Ile Ser Gln Val Glu Leu Met Leu Gln Lys Asn  
 245 250 255  
 Thr Ile Pro Pro Ser Leu His Asn Ser Ile Phe Arg Ile Arg Lys His  
 260 265 270  
 Ala Gln Gln Met Lys Leu Leu Ile Ser Glu Leu Leu Asp Phe Arg Lys  
 275 280 285  
 Phe Asp Gln Asn Tyr Ile Gln Leu Lys Leu Ser Glu Gln Ser Leu Asn  
 290 295 300  
 Thr Phe Leu Glu Glu Val Tyr Leu Ser Phe Ser Ala Tyr Ala Ser Gln  
 305 310 315 320  
 Lys Ser Ile Ser Tyr His Leu Lys Leu Leu Glu Gln Asp Ile Ser Ile  
 325 330 335  
 Trp Ile Asp Asp Trp Gln Met Arg Lys Val Leu Phe Asn Leu Leu Ser  
 340 345 350  
 Asn Ala Phe Lys His Val Pro Asp Lys Gly Glu Ile Ser Ile Leu Thr  
 355 360 365  
 Ser Thr Thr Pro Asp Gln Val Val Ile Ala Val Lys Asp Ser Gly Asn  
 370 375 380  
 Gly Ile Ser Lys Glu Glu Gln Glu Arg Ile Phe Asp Arg Phe Tyr Gln  
 385 390 395 400  
 Ala Asp Asn Arg Asn Lys Ala Ile His Val Gly Thr Gly Ile Gly Leu  
 405 410 415  
 Ala Leu Thr Lys Ser Ile Ile Gln Leu His His Gly Thr Ile Glu Val  
 420 425 430  
 Glu Ser Glu Leu Asn Glu Gly Ser Cys Phe Ile Val Lys Leu Pro Lys  
 435 440 445  
 Thr Arg Asp Cys Phe Glu Lys Asp Thr Glu Val Val Phe Leu Glu Ser  
 450 455 460  
 Pro Glu Lys Glu Pro Met Val Gln Glu Asn Thr Ile Pro Asp Glu Asn  
 465 470 475 480  
 Phe Met Lys Lys Asp Asp Ser Thr Phe Glu Thr Pro Leu Ile Asp Glu  
 485 490 495  
 Arg Glu Gly Lys Arg Lys Val Leu Leu Val Glu Asp Asn Val Glu Leu  
 500 505 510  
 Leu Gln Val Leu Lys Glu Ile Phe Ser Ser Leu Tyr Gln Val Val Thr  
 515 520 525  
 Ala Ala Asn Gly Glu Glu Gly Leu Lys Gln Ala Phe Ala Glu Val Pro  
 530 535 540  
 Asp Leu Ile Val Ser Asp Val Met Met Pro Val Met Thr Gly Thr Glu  
 545 550 555 560  
 Met Cys Leu Lys Ile Lys Asn Asn Ile Xaa Leu Cys His Ile Pro Val  
 565 570 575  
 Val Leu Leu Thr Ala Leu Asp Thr Val Asp Xaa Asn Ile Glu Gly Leu  
 580 585 590  
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&lt;210&gt; 10332

&lt;211&gt; 145

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10332

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                   20                  25                  30  
 Asp Lys Lys Asp Thr Gln Arg Val Ala Ile Leu Asp Glu Lys Glu Arg  
                   35                  40                  45  
 Ser Tyr Gly Gln Lys Glu Arg Ile Arg Glu Ala Ile Ala Lys Arg Thr  
                   50                  55                  60  
 Pro Leu Asp Leu Gly Leu Lys Asp Lys Asn Ser Gly Val Glu Phe Glu  
   65                  70                  75                  80  
 Val Gly Asn Ile Phe Ile Asp Gly Asp Ile Leu Leu Leu Arg Met Thr  
                   85                  90                  95  
 Leu Ile Asn Arg Thr Gln Ile Gly Tyr Thr Thr Asp Phe Met Arg Phe  
                   100                  105                  110  
 Tyr Ile Gln Asp Ala Lys Ile Arg Lys Lys Thr Ala Val Gln Gln Leu  
                   115                  120                  125  
 Glu Gln Asn Ile Leu Phe Thr Phe Asp Tyr Thr Gly Arg Ser Thr Gly  
                   130                  135                  140  
 Thr  
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 <212> PRT  
 <213> B.fragilis

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                   20                  25                  30  
 Val Gly Tyr Ser Val Pro Gly Glu Tyr Ile Pro Val Val Phe Gln Cys  
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 <211> 193  
 <212> PRT  
 <213> B.fragilis

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                   20                  25                  30  
 Leu Leu Asp Lys Ala Leu Asp Arg Cys Glu Arg Leu Glu Thr Leu Glu  
                   35                  40                  45  
 Asn Tyr Arg Asp Ile Leu Ser Arg Tyr Gly Val Ser Asp Lys Ile Pro  
                   50                  55                  60  
 Leu Ala Cys Pro Leu Lys Asp Arg Phe Arg Lys Ser Ser Gly Phe Gly  
   65                  70                  75                  80  
 Ile Arg Ile His Pro Ile Thr Gly Lys Arg Ser Phe His Ser Gly Ile  
                   85                  90                  95  
 Asp Met Ala Val Gly Leu Ala Ala Pro Val Tyr Ala Thr Ala Ser Gly  
                   100                  105                  110  
 Thr Val Ser Phe Ala Gly Arg Lys Gly Gly Tyr Gly Arg Cys Val Ile  
                   115                  120                  125  
 Ile Arg His Ser Tyr Gly Phe Glu Thr Leu Tyr Ala His Leu Ala Ala  
                   130                  135                  140  
 Tyr Tyr Thr Thr Glu Gly Gln Lys Val Asp Lys Gly Ala Val Ile Ala

10333 10334 10335 10336 10337 10338 10339 10340 10341 10342 10343 10344 10345 10346 10347 10348 10349 10350 10351 10352 10353 10354 10355 10356 10357 10358 10359 10360 10361 10362 10363 10364 10365 10366 10367 10368 10369 10370 10371 10372 10373 10374 10375 10376 10377 10378 10379 10380 10381 10382 10383 10384 10385 10386 10387 10388 10389 10390 10391 10392 10393 10394 10395 10396 10397 10398 10399 10400 10401 10402 10403 10404 10405 10406 10407 10408 10409 10410 10411 10412 10413 10414 10415 10416 10417 10418 10419 10420 10421 10422 10423 10424 10425 10426 10427 10428 10429 10430 10431 10432 10433 10434 10435 10436 10437 10438 10439 10440 10441 10442 10443 10444 10445 10446 10447 10448 10449 10450 10451 10452 10453 10454 10455 10456 10457 10458 10459 10460 10461 10462 10463 10464 10465 10466 10467 10468 10469 10470 10471 10472 10473 10474 10475 10476 10477 10478 10479 10480 10481 10482 10483 10484 10485 10486 10487 10488 10489 10490 10491 10492 10493 10494 10495 10496 10497 10498 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145 150 155 160  
 Phe Ala Gly Ser Thr Gly Lys Ser Thr Gly Tyr His Leu His Tyr Glu  
 165 170 175  
 Ile Arg Lys Asn Gly Lys Pro Ile Lys Pro Tyr Trp Tyr Gly Tyr Asp  
 180 185 190  
 Asp

<210> 10335  
 <211> 117  
 <212> PRT  
 <213> B.fragilis

<400> 10335  
 Thr Ala His Arg Ser Val Ile Arg Arg Ile Ser Cys Gly Ser Thr Ser  
 1 5 10 15  
 Arg Met Pro Arg Ser Ala Lys Arg Arg Arg Tyr Ser Ser Ser Ser Arg  
 20 25 30  
 Thr Ser Cys Ser Leu Ser Ile Ile Pro Glu Glu Val Pro Ala His Glu  
 35 40 45  
 Ser Arg Thr Phe Thr Val Ala Met Asn Lys Phe Thr Ile Pro Asp Lys  
 50 55 60  
 Lys Arg Leu Ile Ile Glu Ile Gln Glu Arg Asn Gly Gly Arg His Phe  
 65 70 75 80  
 Leu Tyr Lys Leu Lys Asn Lys Ser Leu Leu Thr Ala Glu Glu Val Phe  
 85 90 95  
 Arg Ser Arg Lys Gln Gln Glu Thr Glu Asp Glu Ala Asp Lys Ile Leu  
 100 105 110  
 Arg Arg Ile Ala Arg  
 115

<210> 10336  
 <211> 117  
 <212> PRT  
 <213> B.fragilis

<400> 10336  
 Asn His Thr Gly Met Ala Met Thr Ile Glu Gln Glu Ile Glu Gln Leu  
 1 5 10 15  
 Val Leu Gln Cys Ile Ala Ser Asp Gly Leu Lys Ala Cys Pro Lys Asp  
 20 25 30  
 Leu Ala Phe Leu Glu Lys Tyr Gly Leu Lys Asn Leu Tyr Phe Phe Ser  
 35 40 45  
 Leu Glu Tyr Ala Met Glu Gly Thr Asp Thr Thr Val Leu Asp Ser Lys  
 50 55 60  
 Ala Lys Gly Leu Ile Arg Trp Tyr Leu Tyr Ser Thr Asp Phe Pro Leu  
 65 70 75 80  
 Leu Arg Gln Lys Tyr Glu Arg Glu Gly Lys Ala Glu Leu Met Lys Cys  
 85 90 95  
 Leu Tyr Leu Glu Glu Arg Tyr Phe Arg Lys Phe Leu Glu Ser Thr Gly  
 100 105 110  
 Gln Glu Glu Gly Leu  
 115

<210> 10337  
 <211> 64  
 <212> PRT  
 <213> B.fragilis

10335 10336 10337

&lt;400&gt; 10337

Val	Val	Ala	Ala	Ala	Pro	Ser	Ser	Pro	Val	Val	Lys	Thr	Met	Ser	Asp
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Ser	Leu	Val	Glu	Arg	Lys	Gly	Ala	Ser	Asp	Glu	Gln	His	Arg	Lys	Leu
			20					25					30		
Leu	Tyr	Lys	Arg	Tyr	Gly	Arg	Leu	Thr	Phe	Arg	Glu	Gly	Lys	Ile	Ile
		35					40					45			
Phe	Leu	Asn	Ser	Arg	Cys	Pro	Ala	Phe	Tyr	Val	Lys	Lys	Glu	Glu	Lys
	50					55					60				

&lt;210&gt; 10338

&lt;211&gt; 515

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10338

Thr	Ser	Lys	Tyr	Cys	Thr	Ser	Met	Asp	Ser	Ile	Leu	Phe	Trp	Leu	Val
1				5					10					15	
Pro	Phe	Ala	Ser	Val	Leu	Ala	Leu	Cys	Phe	Ala	Leu	Tyr	Phe	His	Lys
			20					25					30		
Gln	Met	Met	Lys	Glu	Ser	Glu	Gly	Thr	Pro	Gln	Met	Ile	Lys	Ile	Ala
		35					40					45			
Ala	Ala	Val	Arg	Arg	Gly	Ala	Met	Ser	Tyr	Leu	Lys	Gln	Gln	Tyr	Lys
	50					55					60				
Ile	Val	Gly	Trp	Val	Phe	Leu	Gly	Leu	Val	Ile	Leu	Phe	Ser	Val	Met
65					70					75					80
Ala	Tyr	Gly	Phe	Gln	Val	Gln	Asn	Ala	Trp	Val	Pro	Ile	Ala	Phe	Leu
				85					90					95	
Thr	Gly	Gly	Phe	Phe	Ser	Gly	Leu	Ser	Gly	Phe	Leu	Gly	Met	Lys	Thr
			100					105					110		
Ala	Thr	Tyr	Ala	Ser	Ala	Arg	Thr	Ala	Asn	Ala	Ala	Arg	Thr	Ser	Leu
		115					120					125			
Asn	Ala	Gly	Leu	Arg	Ile	Ala	Phe	Arg	Ser	Gly	Ala	Val	Met	Gly	Leu
	130					135					140				
Val	Val	Val	Gly	Leu	Gly	Leu	Leu	Asp	Ile	Ser	Phe	Trp	Tyr	Leu	Leu
145				150						155					160
Leu	Asn	Trp	Ala	Ile	Pro	Ala	Asp	Val	Leu	Thr	Pro	Thr	His	Lys	Leu
				165				170						175	
Cys	Ile	Ile	Thr	Thr	Thr	Met	Leu	Thr	Phe	Gly	Met	Gly	Ala	Ser	Thr
		180						185					190		
Gln	Ala	Leu	Phe	Ala	Arg	Val	Gly	Gly	Ile	Tyr	Thr	Lys	Ala	Ala	
	195						200					205			
Asp	Val	Gly	Ala	Asp	Leu	Val	Gly	Lys	Val	Glu	Ala	Gly	Ile	Pro	Glu
	210					215					220				
Asp	Asp	Pro	Arg	Asn	Pro	Ala	Thr	Ile	Ala	Asp	Asn	Val	Gly	Asp	Asn
225				230						235					240
Val	Gly	Asp	Val	Ala	Gly	Met	Gly	Ala	Asp	Leu	Tyr	Glu	Ser	Tyr	Cys
			245					250						255	
Gly	Ser	Ile	Leu	Ala	Thr	Ala	Ala	Leu	Gly	Ala	Ala	Ala	Phe	Ile	His
		260						265					270		
Thr	Gly	Asp	Thr	Val	Met	Gln	Phe	Lys	Ala	Val	Ile	Ala	Pro	Met	Leu
		275					280						285		
Ile	Ala	Ala	Ile	Gly	Ile	Ile	Leu	Ser	Ile	Ile	Gly	Ile	Phe	Ser	Val
	290					295					300				
Arg	Thr	Lys	Glu	Asn	Ala	Thr	Met	Lys	Asp	Leu	Leu	Gly	Ser	Leu	Ala
305				310						315					320
Trp	Gly	Thr	Asn	Leu	Ser	Ser	Ala	Leu	Ile	Val	Ala	Ala	Thr	Phe	Phe
			325						330					335	
Ile	Leu	Trp	Leu	Leu	Gln	Leu	Asp	Asn	Trp	Met	Trp	Ile	Ser	Cys	Ala

10337  
 10338  
 515  
 PRT  
 B.fragilis

Val	Val	Val	Gly	Leu	Val	Val	Gly	Ile	Val	Ile	Gly	Arg	Ser	Thr	Glu
		355					360					365			
Tyr	Tyr	Thr	Ser	Gln	Ser	Tyr	Arg	Pro	Thr	Gln	Lys	Leu	Ser	Glu	Ser
		370					375					380			
Gly	Lys	Thr	Gly	Pro	Ala	Thr	Val	Ile	Ile	Ser	Gly	Ile	Gly	Leu	Gly
385					390					395					400
Met	Leu	Ser	Thr	Ala	Ile	Pro	Val	Val	Ala	Val	Val	Ile	Gly	Ile	Ile
				405					410						415
Ala	Ser	Tyr	Leu	Leu	Ala	Ser	Gly	Phe	Asp	Phe	Asn	Asn	Val	Gly	Met
			420					425					430		
Gly	Leu	Tyr	Gly	Ile	Gly	Ile	Ala	Ala	Val	Gly	Met	Leu	Ser	Thr	Leu
		435					440					445			
Gly	Ile	Thr	Leu	Ala	Thr	Asp	Ala	Tyr	Gly	Pro	Ile	Ala	Asp	Asn	Ala
	450					455					460				
Gly	Gly	Asn	Ala	Glu	Met	Ser	Ser	Leu	Gly	Lys	Glu	Val	Arg	Lys	Arg
465					470					475					480
Thr	Asp	Ala	Leu	Asp	Ser	Leu	Gly	Asn	Thr	Thr	Ala	Ala	Thr	Gly	Lys
				485					490					495	
Gly	Phe	Ala	Ile	Gly	Ser	Ala	Ala	Leu	Thr	Glu	Leu	Ala	Leu	Leu	Ala
			500					505					510		
Ser	Tyr	Ile													
		515													

<210> 10339  
 <211> 299  
 <212> PRT  
 <213> B.fragilis

<400> 10339

Phe	Pro	Leu	Ser	Gln	Pro	Leu	Arg	Ala	Lys	Leu	Lys	Asp	Tyr	Ser	Met
1				5					10					15	
Phe	Asp	Lys	Lys	Phe	Asn	Phe	Tyr	Ile	Ala	Asn	Asp	Leu	Gly	Arg	Asn
			20					25					30		
Gly	Tyr	Tyr	Asp	Gln	Lys	Pro	Ile	Ala	Glu	Leu	Met	Gly	Thr	Met	Gly
		35					40					45			
Glu	Glu	Ile	Gly	Pro	Glu	Phe	Val	Leu	Ala	Ala	Gly	Asp	Ile	His	His
	50					55					60				
Phe	Glu	Gly	Val	Arg	Ser	Val	Asn	Asp	Pro	Leu	Trp	Met	Thr	Asn	Phe
65				70						75				80	
Glu	Leu	Ile	Tyr	Ser	His	Pro	Glu	Leu	Met	Ile	Asp	Trp	Tyr	Pro	Val
				85					90					95	
Leu	Gly	Asn	His	Glu	Tyr	Arg	Gly	Asn	Thr	Gln	Ala	Val	Leu	Asp	Tyr
		100						105					110		
Ser	Gly	Val	Ser	Arg	Arg	Trp	Thr	Met	Pro	Ala	Arg	Tyr	Tyr	Thr	Lys
		115					120					125			
Thr	Phe	Gly	Glu	Lys	Gly	Ala	Thr	Val	Arg	Ile	Val	Trp	Ile	Asp	Thr
	130					135					140				
Ala	Pro	Leu	Ile	Asp	Lys	Tyr	Arg	Asn	Glu	Ser	Ala	Thr	Tyr	Pro	Asp
145					150					155					160
Ala	Cys	His	Gln	Asp	Met	Asn	Gly	Gln	Leu	Ala	Trp	Leu	Asp	Ser	Val
				165					170					175	
Leu	Thr	Val	Ala	Lys	Glu	Asp	Trp	Val	Ile	Val	Ala	Gly	His	His	Pro
		180						185					190		
Ile	Tyr	Ala	Glu	Thr	Pro	Lys	Asp	Gln	Ser	Glu	Arg	Ser	Asp	Leu	Gln
		195					200					205			
Ser	Arg	Leu	Asp	Pro	Ile	Leu	Arg	Lys	His	Lys	Val	Asp	Met	Tyr	Ile
	210					215					220				
Cys	Gly	His	Ile	His	Asn	Phe	Gln	His	Ile	Arg	Val	Pro	Gly	Ser	Asp

225		230		235		240
Ile Asp Tyr Ile Val Asn Ser Ala Gly Ser Leu Ala Arg Lys Val Lys						
	245			250		255
Pro Ile Glu Gly Thr Gln Phe Cys Asn Pro Glu Pro Gly Phe Ser Val						
	260			265		270
Cys Ser Ile Asp Lys Gln Glu Leu Asn Leu Arg Met Ile Asp Lys Lys						
	275		280		285	
Gly Asn Ile Leu Tyr Thr Val Thr Arg Lys Lys						
	290		295			

<210> 10340  
 <211> 163  
 <212> PRT  
 <213> B.fragilis

<400> 10340	
Gly Leu Val Leu Thr Ser Ala Asp Pro Tyr Arg Pro Ala Val Lys Thr	
1	5 10 15
Thr Arg Ile Lys Thr Pro Lys Asn Glu Val Val Thr Ile Pro Asn Ser	
	20 25 30
Phe Ile Met Ser Ser His Thr Val Asn Tyr Ser Ala Ser Ala Arg Glu	
	35 40 45
Tyr Gly Leu Ile Ile His Ser Glu Val Thr Ile Gly Tyr Asp Val Pro	
	50 55 60
Trp Arg Gln Val His Gln Leu Leu Ile Glu Ala Ala Leu Asn Thr Pro	
65	70 75 80
Gly Val Ile Asp Asp Pro Arg Pro Phe Val Leu Glu Thr Ser Leu Ser	
	85 90 95
Asp Trp Tyr Pro Val Tyr Gln Ile Asn Ala Tyr Ile Arg Glu Ala Asp	
	100 105 110
Lys Leu Ala Gln Ile Tyr Ser Asp Leu His Gln Asn Ile Gln Asp Arg	
	115 120 125
Phe Asn Glu Ala Gly Ile Glu Ile Met Ser Pro His Tyr Met Ala Met	
	130 135 140
Arg Asp Gly Asn Glu Ser Thr Ile Pro Lys Asp Asp Leu Arg Pro Lys	
145	150 155 160
Thr Asp Lys	

<210> 10341  
 <211> 333  
 <212> PRT  
 <213> B.fragilis

<220>  
 <221> UNSURE  
 <222> (270), (304), (309)  
 <223> Identity of amino acid sequences at the above locations are unknown.

<400> 10341	
Phe Ile Ile Leu Leu Pro Ile Lys Tyr Glu Lys Ser Leu Phe Ser Ser	
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Leu Tyr Ile Thr Leu Ser His Ile Ala Ser Val Arg Gly Lys Ser Val	
	20 25 30
Ala Tyr Leu Ile Asn Lys Leu Phe Ser Asn Tyr Phe Pro Glu Ala Leu	
	35 40 45
Gln Ala Gln His Ser Tyr Phe Lys Leu Ile Pro Thr Ser Ser Glu Gly	
	50 55 60
Gly Asp Arg Pro Arg Pro Asp His Ser Leu Lys Lys Gln Gln Ile Leu	

65	70	75	80
Asn Ile Met Lys Ser	Phe Lys Ile Met	Leu Ile Thr Val	Leu Ser Val
85	90	95	
Met Thr Leu Ser Cys	Ser Glu Lys Thr	Thr Thr Glu Ile	Pro Glu Thr
100	105	110	
Glu Leu Lys Asn Ile	Ser Cys Ser Thr	Gln Leu Val Thr	His Ser Ser
115	120	125	
Ala Gln Thr Arg Gly	Ala Ala Pro Thr	Thr Thr Leu Asn	Glu Asn Asp Phe
130	135	140	
Val Leu Tyr Ala Phe	Lys Lys Asn Gly	Glu Gly Asn Phe	Ser Tyr Glu
145	150	155	160
Glu Ala Lys His Glu	Thr Ser Val Ile	Asp Gly Gly Val	Trp Lys Tyr
165	170	175	
Asn Ala Ala Phe Pro	Val Gly Thr Tyr	Lys Phe Ile Ala	Phe Tyr Asn
180	185	190	
Leu Asp Glu Lys Asn	Gln Ala Ala Leu	Asn Thr Thr Ile	Thr Gly Ile
195	200	205	
Ser Asn Gln Thr Trp	Glu Asn Ile Leu	Lys Ser Ile Val	Ile Thr His
210	215	220	
Phe Pro Ser Ala Thr	Asp Gln Tyr His	Glu Asp Met Asn	Glu Ile Phe
225	230	235	240
Cys Gly Lys Thr Lys	Asp Ala Ile Asp	Ile Ser Ser Gly	Val Gly Gly
245	250	255	
Asp Asp Asn Glu Ile	Lys Ile Lys Leu	Thr Leu Glu Arg	Xaa Val Ser
260	265	270	
Arg Ile Asp Ile Lys	Phe Ile Lys Val	Ala Ser Asp Asp	Asp His Ile
275	280	285	
Glu Val Pro Tyr Ala	Thr Gly Asn Asn	Phe Gly Gly Thr	Ser Thr Xaa
290	295	300	
Ser Trp Thr Ser Xaa	Ile Phe Thr Ser	Ala Asn Val Pro	Leu Lys Tyr
305	310	315	320
Asn Pro Asn Gly Glu	Asn Pro Asp Tyr	Val Thr Gly Val	
325	330		

&lt;210&gt; 10342

&lt;211&gt; 300

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10342

Leu Asn Ser Lys Ile	Val Met Ala Lys	Glu Ile Leu Phe	Asn Ile Glu
1	5	10	15
Ala Arg Asp Gln	Leu Lys Lys Gly	Val Asp Ala Leu	Ala Asn Ala Val
20	25	30	
Lys Val Thr Leu	Gly Pro Lys Gly	Arg Asn Val Ile	Ile Glu Lys Lys
35	40	45	
Phe Gly Ala Pro	His Ile Thr Lys	Asp Gly Val Thr	Val Ala Lys Glu
50	55	60	
Ile Glu Leu Thr	Asp Ala Tyr Gln	Asn Thr Gly Ala	Gln Leu Val Lys
65	70	75	80
Glu Val Ala Ser	Lys Thr Gly Asp	Asp Ala Gly Asp	Gly Thr Thr Thr
85	90	95	
Ala Thr Val Leu	Ala Gln Ala Ile	Ile Ala Glu Gly	Leu Lys Asn Val
100	105	110	
Thr Ala Gly Ala	Ser Pro Met Asp	Ile Lys Arg Gly	Ile Asp Lys Ala
115	120	125	
Val Ala Lys Val	Val Asp Ser Ile	Lys His Gln Ala	Glu Lys Val Gly
130	135	140	
Asp Asn Tyr Asp	Lys Ile Glu Gln	Val Ala Thr Val	Ser Ala Asn Asn

145		150		155		160
Asp	Pro	Val	Ile	Gly	Lys	Leu
		165		170		175
Lys	Asp	Gly	Val	Ile	Thr	Ile
		180		185		190
Ile	Gly	Val	Val	Glu	Gly	Met
		195		200		205
Tyr	Phe	Val	Thr	Asn	Thr	Glu
		210		215		220
Tyr	Ile	Leu	Ile	Tyr	Asp	Lys
		225		230		235
Pro	Ile	Leu	Glu	Pro	Ala	Val
			245		250	
Ala	Glu	Asp	Val	Asp	Ser	Glu
		260		265		270
Leu	Arg	Ser	Gln	Leu	Lys	Asn
		275		280		285
Asp	Arg	Arg	Lys	Lys	Met	Val
		290		295		300

&lt;210&gt; 10343

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10343

Lys	Val	Thr	Met	Asn	Ile	Lys	Pro	Leu	Ala	Asp	Arg	Val	Leu	Ile	Leu
1			5						10					15	
Pro	Ala	Pro	Ala	Glu	Glu	Lys	Thr	Ile	Gly	Gly	Ile	Ile	Ile	Pro	Asp
			20					25					30		
Thr	Ala	Lys	Glu	Lys	Pro	Leu	Lys	Gly	Glu	Val	Val	Ala	Val	Gly	His
			35				40					45			
Gly	Thr	Lys	Asp	Glu	Glu	Met	Val	Leu	Lys	Ala	Gly	Asp	Thr	Val	Leu
			50			55					60				
Tyr	Gly	Lys	Tyr	Ala	Gly	Thr	Glu	Leu	Glu	Val	Glu	Gly	Lys	Lys	Tyr
			65			70				75					80
Leu	Ile	Met	Arg	Gln	Ser	Asp	Val	Leu	Ala	Val	Leu	Gly			
				85				90							

&lt;210&gt; 10344

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10344

Ser	Thr	Cys	Ser	Pro	Cys	Trp	Ala	Phe	Thr	Val	Asp	Gly	Ser	Arg	Ala
1			5						10					15	
Cys	Ser	Leu	Asn	Val	Glu	Ala	Val	Pro	Thr	Glu	Gly	Thr	Tyr	Asp	Phe
			20					25					30		
Thr	Gly	Gly	Thr	Leu	Ser	Val	Asn	Glu	Gly	Ser	Gly	Thr	Val	Ser	Ser
			35				40					45			
Lys	Glu	Asn	Met	Leu	Leu	Leu	Leu	Pro	Gly	Arg	Leu	Glu	Glu	Arg	Arg
			50				55				60				
Ala	Gln	Ile	Arg	Tyr	Leu	Asp	Arg	Thr	Tyr	Asp	Trp	Tyr	Leu	Pro	Ala
			65			70				75					80
Asn	Thr	Phe	Glu	Ala	Gly	Lys	Arg	Tyr	Asp	Tyr	Ala	Leu	Thr	Leu	Ser
				85				90						95	
Lys	Glu	Gly	Val	Leu	Ile	Leu	Ser	Gly	Val	Ser	Ala	Arg	Pro	Trp	Glu
			100					105						110	

Thr Gly Gly Asp Tyr Thr Gly Thr Ile Gln Pro  
115 120

<210> 10345

<211> 227

<212> PRT

<213> B.fragilis

<400> 10345

Ser Gly Ile Thr Ser Gly Ser Ser Glu Arg Glu Leu Arg Ser Arg Tyr  
1 5 10 15  
Asn Ser Arg Leu Leu Pro Gly Glu Arg Lys Asn Leu Pro Cys Arg Lys  
20 25 30  
Arg Arg Lys Arg Lys Tyr Gly Pro Gly Ser Ala Lys Pro Trp Ile Val  
35 40 45  
Cys Pro Gly His Arg Pro Ala Gly Asp Ser Thr Arg Ser Gly Ser Ser  
50 55 60  
Gly Arg Lys Arg Gly Met Ser Ser Arg His Ser Cys Thr Pro His Arg  
65 70 75 80  
Pro Val Trp Ser Gly Ser Thr Leu Lys Met Gln Leu Ala Glu Asn Cys  
85 90 95  
Leu Thr Asp Asp Gly Gln Arg Ile Arg Lys Gly Thr Pro Val Phe Gly  
100 105 110  
Glu Val Thr Gly Ile Asp Gly Glu Arg Val Leu Val Lys Ile Thr Ser  
115 120 125  
Val Asn Leu Gly Gly Asn Ile Leu Pro Phe Glu Lys Gln Val Tyr Ser  
130 135 140  
Glu Asp Ala Ile Gln Gly Ile Tyr Val Pro Gly Asn Val Lys Ala Glu  
145 150 155 160  
Thr Ala Gln Glu Ala Gly Ala Ala Gly Ile Ser Gly Ala Asn Thr Asn  
165 170 175  
Ile Ser Gly Gly Phe Asp Met Gly Ser Gln Leu Val Ala Gly Ala Ala  
180 185 190  
Asn Ser Val Ile Asn Ala Thr Lys Ser Ala Ala Ser Lys Asn Ile Arg  
195 200 205  
Lys Val Lys Val Thr Ile Lys Thr Asn Tyr Arg Ile Leu Leu Arg Gln  
210 215 220  
Pro Lys Glu  
225

<210> 10346

<211> 60

<212> PRT

<213> B.fragilis

<400> 10346

Met Glu Thr Ala Phe Ala Gly Tyr Gly Met Asp Pro Asp Ala Lys Ala  
1 5 10 15  
Ala Ala Leu Pro Glu Pro Val Phe Gln Gly Thr Gly Glu Arg Asp Leu  
20 25 30  
Val Gly Tyr Ser Val Pro Gly Glu Tyr Ile Pro Val Val Phe Gln Cys  
35 40 45  
Leu Gln Ala Phe Ala Pro Val Gln Cys Leu Val Glu  
50 55 60

<210> 10347

<211> 327

<212> PRT

<213> B.fragilis

6148 10345 10346 10347



&lt;400&gt; 10347

Leu Ile Ile Tyr Phe Phe Gln Met Lys Met Lys Thr Ser Phe Phe Leu  
 1 5 10 15  
 Ser Ala Val Met Ala Ala Gly Leu Leu Ala Ser Cys Ser Asn Ser Glu  
 20 25 30  
 Glu Val Phe Asn Glu Gln Val Thr Asp Gly Glu His Ser Gly Ala Gln  
 35 40 45  
 Leu Asn Ile Val Pro Thr Val Ser Ser Glu Ser Thr Glu Thr Arg Ala  
 50 55 60  
 Ser Phe Asp Pro Lys Thr Asp Trp Ala Ala Gly Asp Gly Ala Gly Leu  
 65 70 75 80  
 Phe Met Tyr Lys Val His Gly Trp Gly Asp Ala Tyr Pro Arg Tyr Asp  
 85 90 95  
 Ala Gln Asn Asn Lys Ser Thr Arg Gln Ala Asn Gly Trp Ser Gln Ala  
 100 105 110  
 Ser Pro Val Tyr Leu Leu Val Asp Lys Ala Thr Ile Trp Ala Tyr Tyr  
 115 120 125  
 Pro Tyr Asn Gln Ala Val Thr Asp Gly Thr Lys Ile Pro Val Pro Ile  
 130 135 140  
 Asn Val Gly Thr Ser Val Asp Tyr Met Trp Gly Lys Ser Thr Asn Gln  
 145 150 155 160  
 Val Ser Val Ile Glu Thr Asp Ala Arg Ile Pro Met Lys His Ala Leu  
 165 170 175  
 Ser Gln Phe Val Val Arg Leu Lys Val Ser Pro Glu Tyr His Asn Asp  
 180 185 190  
 Gly Asn Leu Thr Ser Ala Lys Leu Lys Ala Thr Ala Ser Lys Phe Ala  
 195 200 205  
 Thr Thr Gly Thr Met Asn Leu Asn Asp Gly Gly Lys Ile Thr Phe Gln  
 210 215 220  
 Pro Thr Ser Thr Glu Leu Thr Trp Ser Pro Asn Thr Thr Val Pro Ala  
 225 230 235 240  
 Gln Gly Gln Gln Ala Val Asp Tyr Ala Ala Ala Ile Tyr Pro Met Thr  
 245 250 255  
 Leu Ala Ala Gly Glu Val Ser Leu Glu Val Val Ile Asp Gly Ala Thr  
 260 265 270  
 Tyr Thr Tyr Ala Ile Pro Gln Ile Thr Trp Glu Ala Gly Lys Arg Tyr  
 275 280 285  
 Ile Tyr Ser Ile Thr Met Arg Ser Asn Asp Ala Glu Ile Gly Gly Lys  
 290 295 300  
 Asn Gly Gln Ser Val Thr Ile Glu Gly Trp Thr Ser Thr Glu Glu Asp  
 305 310 315 320  
 Ile Thr Leu Val Pro Val Lys  
 325

&lt;210&gt; 10348

&lt;211&gt; 224

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10348

Thr Asn Gly Tyr Lys Leu Tyr Asn Glu Thr Phe Met Lys Ala Thr Lys  
 1 5 10 15  
 Ser Ile Leu Asn Ile Gln Ser Ile Leu Lys Asp Phe Ser Gly Leu Ala  
 20 25 30  
 Glu Ala Arg Lys Ser Tyr Thr Leu Arg Thr Arg Leu Val Phe Ile Phe  
 35 40 45  
 Cys Gly Ile Thr Ile Ala Met Val Leu Phe Phe Ala His Ser Val Val  
 50 55 60

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<210> 10349
<211> 397
<212> PRT
<213> B.fragilis
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Thr	Ala	Phe	Asn	Asn	Ile	Asn	Ile	Glu	Val	Lys	Phe	Asn	Met	Lys	Pro
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Asn	Lys	Ile	Tyr	Ile	Thr	Thr	Leu	Leu	Leu	Leu	Phe	Phe	Leu	Ser	Gly
			20					25					30		
Arg	Ala	Gln	Lys	Ile	Glu	Glu	Leu	Thr	Ala	Val	Pro	Leu	Gln	Ile	Gly
			35				40					45			
Tyr	Glu	Lys	Thr	Leu	His	Leu	Ile	Phe	Pro	Thr	Glu	Val	Lys	Tyr	Tyr
	50					55					60				
Ser	Ile	Gly	Gly	Asp	Tyr	Val	Ile	Gly	Glu	Lys	Val	Val	Asn	Cys	Pro
65					70					75				80	
Gly	Ile	Ile	Arg	Leu	Lys	Ala	Ala	Glu	Glu	Asn	Phe	Pro	Gly	Glu	Thr
				85					90					95	
Thr	Leu	Ser	Val	Val	Thr	Ala	Asp	Thr	Lys	Phe	Tyr	Ser	Tyr	Ser	Ile
			100					105					110		
Ser	Tyr	Asn	Ala	His	Pro	Ala	Gln	Ser	Tyr	Val	Arg	Ile	Gly	Gly	Glu
		115					120					125			
Ala	Pro	Thr	Pro	His	Thr	Leu	Pro	Val	Gly	Lys	Glu	Lys	Gln	Leu	Phe
	130					135					140				
Leu	Ile	Phe	Pro	Ala	Gly	Ile	Thr	Tyr	Val	Asp	Tyr	Gly	Ser	Thr	Asn
145					150					155					160
Val	Glu	Val	Asp	Lys	Ala	Glu	Gly	Val	Asp	Asn	Ile	Leu	Ala	Val	Lys
				165					170					175	
Ala	Val	Gln	Pro	Tyr	Lys	Glu	Asp	Thr	Asn	Ile	Ser	Val	Val	Leu	Glu
			180					185					190		
Gly	Gly	Lys	Phe	Tyr	Thr	Phe	Asp	Leu	Arg	Tyr	Val	Pro	Ala	Pro	Glu
		195					200					205			
Arg	Phe	Ser	Phe	Val	Ile	Asp	Lys	Glu	Asp	Thr	Gln	Arg	Val	Ala	Ile
	210					215					220				
Leu	Asp	Glu	Lys	Glu	Arg	Ser	Tyr	Gly	Gln	Lys	Glu	Arg	Ile	Arg	Glu
225					230					235					240
Ala	Val	Ala	Lys	Arg	Ala	Pro	Leu	Asp	Leu	Gly	Leu	Arg	Asp	Lys	Asn
				245					250					255	

Ser Gly Met Glu Phe Glu Val Gly Asn Ile Phe Ile Asp Gly Asp Val  
 260 265 270  
 Leu Leu Leu Arg Met Thr Leu Thr Asn Arg Thr Gln Ile Gly Tyr Thr  
 275 280 285  
 Thr Asp Phe Met Arg Phe Tyr Ile Gln Asp Ala Lys Ile Arg Lys Lys  
 290 295 300  
 Thr Ala Val Gln Gln Leu Glu Gln Asn Ile Leu Phe Thr Phe Asp Tyr  
 305 310 315 320  
 Pro Glu Glu Ile Pro Ala His Glu Ser Arg Thr Phe Thr Val Ala Met  
 325 330 335  
 Asn Lys Phe Thr Ile Pro Asp Lys Lys Arg Leu Ile Ile Glu Ile Gln  
 340 345 350  
 Glu Arg Asn Gly Gly Arg His Phe Leu Tyr Lys Leu Lys Asn Lys Ser  
 355 360 365  
 Leu Leu Thr Ala Glu Glu Val Phe Arg Ser Arg Lys Gln Gln Glu Thr  
 370 375 380  
 Glu Asp Glu Ala Asp Lys Ile Leu Arg Arg Ile Ala Arg  
 385 390 395

&lt;210&gt; 10350

&lt;211&gt; 75

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10350

Thr Thr Thr Lys Asn Lys Asn Tyr Asn Arg Met Glu Thr Ile Trp Glu  
 1 5 10 15  
 Lys Val Asp Tyr Leu Gly Arg Ile Leu Cys Cys Ile Ile Met Gly Ile  
 20 25 30  
 Ala Tyr Ile Leu Ile Met Ile Ala Pro Leu Tyr Ala Ser Arg His Glu  
 35 40 45  
 Gln Ser Gly Gln Arg Ser Asp Glu Lys Ala Ser Val Asp Gly Glu Glu  
 50 55 60  
 Lys Val Pro Asp Asn Gly Pro Glu Pro Glu Lys  
 65 70 75

&lt;210&gt; 10351

&lt;211&gt; 810

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10351

Arg Arg Asn Lys Met Lys Glu Glu Glu Ala Tyr Ser Ile Leu Asp Ile  
 1 5 10 15  
 Ile Ser Glu Ser Asp Gly Gln Ser Val Ile Leu Thr Arg Ser Gly Ser  
 20 25 30  
 Ile Cys Ile Pro Phe Glu Leu Arg Gln Pro Glu Cys Tyr Ser Leu Ser  
 35 40 45  
 Pro Glu Asp Ile Asp Glu Arg Asp Gly Met Tyr Arg Glu Ala Phe Arg  
 50 55 60  
 His Met Pro Asp Gly Ala Tyr Val His Lys Gln Asp Val Phe Leu Lys  
 65 70 75 80  
 Lys Glu Tyr His Pro Gly Lys Gly Thr Gly Ser Phe Leu Asp Arg Ala  
 85 90 95  
 Asp Ala Arg His Phe Glu Gly Arg Leu Tyr Ile Asp His Thr Cys Ile  
 100 105 110  
 Leu His Phe Val Leu Ala Gly Leu Lys Ser Leu Glu Lys Ala Tyr Val  
 115 120 125  
 Ser Ser Pro Leu Ala Tyr Lys Glu His Leu His Arg Glu Asp Tyr Arg

130	135	140
Lys Leu Glu Ala Phe	Leu Glu Gly Val Asp Asn	Ala Val Ser Ile Leu
145	150	155
Gln Asn Met Arg Gly	Asn Ser Val Leu Pro Met	Ser Cys Glu Gly Ile
165	170	175
Ser Gly Phe Thr Arg	Ala Tyr Ser Gly Leu Phe	Gly Asp Thr Asp Ala
180	185	190
Val Val Asp Ile His	Val Asp Gly Ser Leu His	Val Gly Lys Asn His
195	200	205
Ala Arg Cys Tyr Ala	Val Cys Asp Glu Thr Phe	Leu Pro Glu Gly Asn
210	215	220
Ile Glu Ser Tyr Val	Arg Asp Glu Ser Leu Pro	Pro Ala Ala Ser Gln
225	230	235
Leu Tyr His Pro Leu	Met Glu Gln Leu Gly Met	Tyr Leu Pro Tyr Asn
245	250	255
His Ile Val Asn Gln	Val Ile Tyr Phe Glu Gly	Asn Glu Arg Leu Arg
260	265	270
Ser Arg Ile Ala Arg	Asn Ile Asp Ile Tyr Gly	Ser Asn Ser Ser Met
275	280	285
Asn Lys Gly Ile Glu	Arg Glu Phe Lys Glu Leu	Glu Lys Leu Gln Thr
290	295	300
Glu Ile Leu Glu Glu	Asn Gln Met Leu Val Arg	Ser Phe Phe Ser Val
305	310	315
Cys Val Phe Asp Gly	Ser Asp Thr Glu Leu Glu	Lys Ala Asp Lys Arg
325	330	335
Ile Arg Glu Ile Leu	Asn Leu Asn Arg Phe Lys	Tyr Tyr Ile Pro Gly
340	345	350
Tyr Gly Asn Leu Ala	Arg Met His Phe Ala Cys	Val Pro Gly Gln Ile
355	360	365
Ser Leu Met Pro Val	Glu Tyr Leu Phe Leu Thr	Thr Leu Pro Ile Ala
370	375	380
Leu Cys Phe Phe Leu	Gln Cys Gly Lys Phe Ser	Asn Asp Ala Glu Gly
385	390	395
Ile Tyr Val His Asp	Arg Met Tyr Gln Val Pro	Leu Arg Lys Asp Ile
405	410	415
Trp Asp Ala Ala Lys	Lys Arg Val Asn Ala Arg	Asn Gly Met Val Ile
420	425	430
Ala Gly Thr Gly Gly	Gly Lys Ser Ala Phe Thr	Leu Asn Phe Thr Gln
435	440	445
Gln Leu Ile Glu Gln	Asp Tyr Thr Thr Ile Val	Val Glu Phe Gly Asn
450	455	460
Ser Phe Ser Gln Leu	Cys Lys Leu Tyr Pro Asp	Ile Ser Leu His Val
465	470	475
Asp Tyr Asp Gly Lys	Thr Pro Leu Gly Ile Asn	Pro Phe Asp Leu Gln
485	490	495
Gly Gly Glu Pro Asp	Asn Asn Asp Leu Glu Thr	Leu Ser Gly Ile Val
500	505	510
Gln Arg Tyr Trp Lys	His Met Phe Thr Lys Asp	Glu Ser Glu Lys Glu
515	520	525
Val Ala Leu Thr Arg	Phe Ile Gln Asp Tyr Tyr	Glu His Val Arg Gln
530	535	540
Gly His Asn Phe Glu	Ser Phe Tyr Asn Tyr Val	Ile Asp Asn Tyr Asp
545	550	555
Glu Ile Leu Glu Arg	Lys His Ile Pro Gly Thr	Tyr Phe Thr Ile Glu
565	570	575
Ser Phe Lys Leu Asn	Cys Gly Glu Phe Met	Pro Gly Gln Arg Tyr Glu
580	585	590
Asn Val Cys Lys Asp	Met Lys Ile Asp Phe Ser	Gly Lys Lys Phe Ile
595	600	605

6152 6153 6154 6155 6156 6157 6158 6159 6160 6161 6162 6163 6164 6165 6166 6167 6168 6169 6170 6171 6172 6173 6174 6175 6176 6177 6178 6179 6180 6181 6182 6183 6184 6185 6186 6187 6188 6189 6190 6191 6192 6193 6194 6195 6196 6197 6198 6199 6200 6201 6202 6203 6204 6205 6206 6207 6208 6209 6210 6211 6212 6213 6214 6215 6216 6217 6218 6219 6220 6221 6222 6223 6224 6225 6226 6227 6228 6229 6230 6231 6232 6233 6234 6235 6236 6237 6238 6239 6240 6241 6242 6243 6244 6245 6246 6247 6248 6249 6250 6251 6252 6253 6254 6255 6256 6257 6258 6259 6260 6261 6262 6263 6264 6265 6266 6267 6268 6269 6270 6271 6272 6273 6274 6275 6276 6277 6278 6279 6280 6281 6282 6283 6284 6285 6286 6287 6288 6289 6290 6291 6292 6293 6294 6295 6296 6297 6298 6299 6300 6301 6302 6303 6304 6305 6306 6307 6308 6309 6310 6311 6312 6313 6314 6315 6316 6317 6318 6319 6320 6321 6322 6323 6324 6325 6326 6327 6328 6329 6330 6331 6332 6333 6334 6335 6336 6337 6338 6339 6340 6341 6342 6343 6344 6345 6346 6347 6348 6349 6350 6351 6352 6353 6354 6355 6356 6357 6358 6359 6360 6361 6362 6363 6364 6365 6366 6367 6368 6369 6370 6371 6372 6373 6374 6375 6376 6377 6378 6379 6380 6381 6382 6383 6384 6385 6386 6387 6388 6389 6390 6391 6392 6393 6394 6395 6396 6397 6398 6399 6400 6401 6402 6403 6404 6405 6406 6407 6408 6409 6410 6411 6412 6413 6414 6415 6416 6417 6418 6419 6420 6421 6422 6423 6424 6425 6426 6427 6428 6429 6430 6431 6432 6433 6434 6435 6436 6437 6438 6439 6440 6441 6442 6443 6444 6445 6446 6447 6448 6449 6450 6451 6452 6453 6454 6455 6456 6457 6458 6459 6460 6461 6462 6463 6464 6465 6466 6467 6468 6469 6470 6471 6472 6473 6474 6475 6476 6477 6478 6479 6480 6481 6482 6483 6484 6485 6486 6487 6488 6489 6490 6491 6492 6493 6494 6495 6496 6497 6498 6499 6500 6501 6502 6503 6504 6505 6506 6507 6508 6509 6510 6511 6512 6513 6514 6515 6516 6517 6518 6519 6520 6521 6522 6523 6524 6525 6526 6527 6528 6529 6530 6531 6532 6533 6534 6535 6536 6537 6538 6539 6540 6541 6542 6543 6544 6545 6546 6547 6548 6549 6550 6551 6552 6553 6554 6555 6556 6557 6558 6559 6560 6561 6562 6563 6564 6565 6566 6567 6568 6569 6570 6571 6572 6573 6574 6575 6576 6577 6578 6579 6580 6581 6582 6583 6584 6585 6586 6587 6588 6589 6590 6591 6592 6593 6594 6595 6596 6597 6598 6599 6600 6601 6602 6603 6604 6605 6606 6607 6608 6609 6610 6611 6612 6613 6614 6615 6616 6617 6618 6619 6620 6621 6622 6623 6624 6625 6626 6627 6628 6629 6630 6631 6632 6633 6634 6635 6636 6637 6638 6639 6640 6641 6642 6643 6644 6645 6646 6647 6648 6649 6650 6651 6652 6653 6654 6655 6656 6657 6658 6659 6660 6661 6662 6663 6664 6665 6666 6667 6668 6669 6670 6671 6672 6673 6674 6675 6676 6677 6678 6679 6680 6681 6682 6683 6684 6685 6686 6687 6688 6689 6690 6691 6692 6693 6694 6695 6696 6697 6698 6699 6700 6701 6702 6703 6704 6705 6706 6707 6708 6709 6710 6711 6712 6713 6714 6715 6716 6717 6718 6719 6720 6721 6722 6723 6724 6725 6726 6727 6728 6729 6730 6731 6732 6733 6734 6735 6736 6737 6738 6739 6740 6741 6742 6743 6744 6745 6746 6747 6748 6749 6750 6751 6752 6753 6754 6755 6756 6757 6758 6759 6760 6761 6762 6763 6764 6765 6766 6767 6768 6769 6770 6771 6772 6773 6774 6775 6776 6777 6778 6779 6780 6781 6782 6783 6784 6785 6786 6787 6788 6789 6790 6791 6792 6793 6794 6795 6796 6797 6798 6799 6800 6801 6802 6803 6804 6805 6806 6807 6808 6809 6810 6811 6812 6813 6814 6815 6816 6817 6818 6819 6820 6821 6822 6823 6824 6825 6826 6827 6828 6829 6830 6831 6832 6833 6834 6835 6836 6837 6838 6839 6840 6841 6842 6843 6844 6845 6846 6847 6848 6849 6850 6851 6852 6853 6854 6855 6856 6857 6858 6859 6860 6861 6862 6863 6864 6865 6866 6867 6868 6869 6870 6871 6872 6873 6874 6875 6876 6877 6878 6879 6880 6881 6882 6883 6884 6885 6886 6887 6888 6889 6890 6891 6892 6893 6894 6895 6896 6897 6898 6899 6900 6901 6902 6903 6904 6905 6906 6907 6908 6909 6910 6911 6912 6913 6914 6915 6916 6917 6918 6919 6920 6921 6922 6923 6924 6925 6926 6927 6928 6929 6930 6931 6932 6933 6934 6935 6936 6937 6938 6939 6940 6941 6942 6943 6944 6945 6946 6947 6948 6949 6950 6951 6952 6953 6954 6955 6956 6957 6958 6959 6960 6961 6962 6963 6964 6965 6966 6967 6968 6969 6970 6971 6972 6973 6974 6975 6976 6977 6978 6979 6980 6981 6982 6983 6984 6985 6986 6987 6988 6989 6990 6991 6992 6993 6994 6995 6996 6997 6998 6999 7000

Val	Phe	Glu	Leu	Thr	Arg	Ile	Lys	Gln	Asp	Arg	Phe	Leu	Ser	Asn	Leu
610						615					620				
Val	Met	Ser	Met	Ile	Phe	Thr	Val	Ile	Gln	Lys	Lys	Leu	Leu	Ser	Asp
625					630					635					640
Arg	Arg	Lys	Arg	Gly	Ile	Leu	Ile	Phe	Asp	Glu	Tyr	Ala	Glu	Thr	Ala
				645					650						655
Gln	Met	Val	Asp	Thr	Ala	Thr	Gly	Ser	Gly	Ile	His	Ser	Ser	Val	Ala
			660					665						670	
Phe	Cys	Tyr	Gln	Lys	Ile	Arg	Lys	Glu	Asn	Gly	Ala	Val	Tyr	Thr	Ile
	675						680					685			
Val	Gln	Thr	Pro	Asp	Gln	Leu	Pro	Asp	Asp	Glu	Asn	Thr	Lys	Asn	Ile
	690					695					700				
Ile	Ser	Asn	Thr	Asp	Met	Leu	Phe	Val	Leu	Pro	Thr	Lys	Glu	Val	Ile
705					710						715				720
Tyr	Arg	Thr	Ile	Ile	Asp	Lys	Phe	Lys	Leu	Thr	Gln	Pro	Gly	Gln	Ile
				725					730						735
Ala	Leu	Met	Lys	Ser	Met	Arg	Asn	Asn	Phe	Ala	Gly	Ser	Arg	Pro	Tyr
			740					745					750		
Ser	Glu	Cys	Phe	Met	Arg	Met	Gly	Glu	Asn	Tyr	Ala	Thr	Val	Thr	Arg
		755					760					765			
Leu	Glu	Phe	Ser	Arg	Glu	Lys	Phe	Leu	Ala	Phe	Gln	Thr	Glu	Gly	Glu
	770					775					780				
Ile	Leu	Ser	Asp	Leu	Glu	Asp	Lys	Thr	Gly	Ser	Gly	Lys	Ser	Met	Gln
785					790					795					800
Glu	Ala	Ile	Glu	Glu	Tyr	Ile	Asn	Glu	His						
				805					810						

&lt;210&gt; 10352

&lt;211&gt; 193

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (161)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 10352

Ser	Arg	Gln	Asn	Ile	Lys	Glu	Asp	Ser	Pro	Met	Lys	Leu	Leu	Leu	Pro
1			5						10					15	
Leu	Leu	Leu	Phe	Cys	Leu	Pro	Phe	Asn	Gly	Ser	Asn	Gly	Gly	Lys	Glu
			20					25				30			
Leu	Leu	Asp	Lys	Ala	Leu	Asp	Arg	Cys	Glu	Arg	Leu	Glu	Thr	Leu	Glu
		35					40					45			
Asn	Tyr	Arg	Asp	Ile	Leu	Ser	Arg	Tyr	Gly	Val	Ser	Asp	Lys	Ile	Pro
	50					55					60				
Leu	Ala	Cys	Pro	Leu	Lys	Asp	Arg	Phe	Arg	Lys	Ser	Ser	Gly	Phe	Gly
65					70					75					80
Ile	Arg	Ile	His	Pro	Ile	Thr	Gly	Lys	Arg	Ser	Phe	His	Ser	Gly	Ile
			85						90					95	
Asp	Met	Ala	Val	Gly	Leu	Ala	Ala	Pro	Val	Tyr	Ala	Thr	Ala	Ser	Gly
			100					105					110		
Thr	Val	Ser	Phe	Ala	Gly	Arg	Lys	Gly	Gly	Tyr	Gly	Arg	Cys	Val	Ile
		115					120					125			
Ile	Arg	His	Ser	Tyr	Gly	Phe	Glu	Thr	Leu	Tyr	Ala	His	Leu	Ala	Ala
	130					135					140				
Tyr	Tyr	Thr	Thr	Glu	Gly	Gln	Lys	Val	Asp	Lys	Gly	Ala	Val	Ile	Ala
145					150					155					160
Xaa	Ala	Gly	Ser	Thr	Gly	Lys	Ser	Thr	Gly	Tyr	His	Leu	His	Tyr	Glu

Ile Arg Lys Asn Gly Lys Pro Ile Lys Pro Tyr Trp Tyr Gly Tyr Asp  
 165 170 175  
 180 185 190

Asp

<210> 10353  
 <211> 204  
 <212> PRT  
 <213> B.fragilis

<400> 10353

Gln Lys Met Lys Ile Lys Val Tyr Lys His Ile Ala Met Phe Leu Leu  
 1 5 10 15  
 Pro Ala Ala Leu Thr Gly Cys Ser Gly Lys Glu Asp Ser Leu Pro Gly  
 20 25 30  
 Thr Gly Glu Ala Gly Leu Glu Ile Glu Asn Cys Phe Ser Arg Ser Thr  
 35 40 45  
 Gly Thr Asp Thr Gly His Val Pro Val Lys Asp Phe Gly Met Val Leu  
 50 55 60  
 Leu Asp Glu Thr Gly Gly Ser Tyr Thr Gly Val Ser Asn Pro Leu His  
 65 70 75 80  
 Val Thr Tyr Gly Glu Ser Trp Asn Phe Pro Gln Val Thr Leu Thr Gln  
 85 90 95  
 Lys Thr Cys Arg Leu Phe Ala Phe Ser Pro Phe Arg Ser Ile Pro Gly  
 100 105 110  
 Lys Glu Val Ala Val Ser Leu Ser Pro Gln Thr Asp Tyr Leu Ala Ser  
 115 120 125  
 Asp Glu Val Arg Leu Asp Trp Gln Asn Pro Gln Ala Ser Ile Glu Met  
 130 135 140  
 Lys His Leu Leu Ser Leu Leu Gly Ile Tyr Arg Arg Arg Glu Pro Gly  
 145 150 155 160  
 Met Gln Pro Glu Cys Gly Ser Arg Thr Asp Arg Gly His Ile Arg Leu  
 165 170 175  
 Tyr Arg Arg Tyr Ile Val Arg Lys Arg Gly Lys Arg His Arg Phe Phe  
 180 185 190  
 Gln Gly Glu His Ala Ala Ala Pro Ala Arg Gln Ala  
 195 200

<210> 10354  
 <211> 73  
 <212> PRT  
 <213> B.fragilis

<400> 10354

Ala Ser Arg Phe Ile Glu Gln His His Ala Glu Val Leu Tyr Arg Asn  
 1 5 10 15  
 Met Ala Arg Ile Arg Thr Gly Thr Ala Ala Glu Thr Val Phe Tyr Leu  
 20 25 30  
 Lys Ser Arg Leu Ser Cys Pro Gly Glu Gly Ile Phe Leu Ala Gly Thr  
 35 40 45  
 Ala Arg Lys Gly Arg Arg Gln Lys Lys His Gly Tyr Val Phe Ile His  
 50 55 60  
 Phe Tyr Phe His Phe Leu Leu Phe Val  
 65 70

<210> 10355  
 <211> 140  
 <212> PRT

[illegible]

Leu	Arg	Val	Asp	Pro	Glu	Gln	Gly	Arg	Gly	Ala	His	Thr	Leu	Arg	Cys
1				5					10					15	
Glu	Cys	Pro	Ser	Leu	Gly	Asn	Gly	Arg	Arg	Leu	Tyr	Arg	Asn	His	Thr
			20					25					30		
Thr	Leu	Lys	Thr	Thr	Ile	Met	Lys	Arg	Lys	Phe	Leu	Leu	Ser	Ala	Phe
		35					40					45			
Leu	Phe	Ala	Ser	Thr	Leu	Arg	Gly	Tyr	Ala	Gln	Asp	Ala	Arg	Gly	Ala
	50					55					60				
Met	Asn	Gln	Ile	Leu	Asp	Gly	Tyr	Thr	Leu	Pro	Ile	Phe	Ala	Ala	Cys
65				70						75					80
Met	Leu	Val	Gly	Leu	Ala	Leu	Gly	Val	Val	Gln	Gln	Leu	Asp	Asn	Ile
				85				90					95		
Ile	Asp	Lys	Glu	Asn	Arg	Gly	Thr	Arg	Arg	Asp	Gly	Leu	Phe	Ala	Leu
			100					105					110		
Gly	Trp	Tyr	Val	Gly	Phe	Ser	Leu	Leu	Ala	Gly	Val	Val	Ile	Thr	Ala
		115					120					125			
Ala	Lys	Ala	Ala	Ile	Ser	Gly	Ile	Lys	Leu	Thr	Ile				
	130					135					140				

<211> 62

&lt;212&gt; PRT

<213> B.fragilis

Asn	Arg	Cys	Asp	Met	Glu	Thr	Ile	Gln	Glu	Ile	Ile	Asp	Met	Ile	Lys
1				5					10					15	
Glu	Leu	Ser	Gly	Arg	Asp	Ile	Leu	Phe	Leu	Ser	Phe	Tyr	Cys	Gly	Phe
			20					25					30		
Ile	Leu	Ile	Leu	Ser	Ile	His	Arg	Ser	Asp	Glu	Lys	Ala	Ser	Val	Asp
		35					40					45			
Glu	Glu	Glu	Lys	Val	Pro	Asp	Asn	Gly	Pro	Glu	Pro	Glu	Lys		
	50					55				60					

<211> 434

<212> PRT

<213> B.fragilis

Lys	Arg	Cys	Asp	Met	Glu	Thr	Ile	Gln	Glu	Ile	Ile	Asp	Thr	Ile	Lys
1				5					10					15	
Gln	Trp	Pro	Ser	Thr	Ile	Trp	Trp	Val	Met	Gly	Ala	Leu	Phe	Ile	Ile
			20					25					30		
Ser	Trp	Phe	Trp	Asp	Thr	Pro	Leu	Arg	Lys	Lys	Arg	Asn	Lys	Asp	Lys
		35					40					45			
Val	Thr	Asp	Asp	Lys	Asn	Asn	Asn	Leu	Lys	Ser	Ser	Asn	Met	Thr	Asp
	50					55					60				
Lys	Lys	Glu	Leu	Arg	Gly	Asn	Leu	Met	Lys	Glu	Gly	Val	Ile	Leu	Trp
65					70					75				80	
Thr	Val	Phe	Thr	Gly	Glu	Gly	Lys	Ala	Ala	Leu	Arg	Met	Asp	Asn	Glu
			85					90					95		
Ile	His	Ala	Glu	Asn	Gly	Lys	Ile	Gly	His	Gly	Arg	Leu	Leu	Ser	Pro
			100					105					110		
Asp	Val	Pro	Val	Leu	His	Glu	Ile	Leu	Thr	Pro	Asp	Asn	Ala	Tyr	Ser
		115					120					125			

Phe Leu Ser Leu Ser Glu Ile Gly Val Trp Ile Arg Ile Arg Met Arg  
 130 135 140  
 Leu Arg Tyr Pro Gly Ile Glu Asp Ser Ala Val Lys Gln Ser Glu Tyr  
 145 150 155 160  
 Glu Pro Glu Met Cys Phe Pro Ala Trp Ile Ala Gly Glu Lys Thr Gly  
 165 170 175  
 Arg Ile Ser Leu Phe Leu Gln Glu Pro Ser Thr Gly Ile Cys Ala Ile  
 180 185 190  
 Pro Asp Met Val Gly Ile Pro Gly Leu Pro Asp Leu Gln Pro Asp Ser  
 195 200 205  
 Val Pro Val Lys Val Glu Met Leu Ile Arg Lys Ala Ser Pro Leu Leu  
 210 215 220  
 Glu His Pro Glu Tyr Ser Glu Asp Ile Lys Lys Arg Ala Asp Arg Lys  
 225 230 235 240  
 Ser Asn Leu Met Lys Glu Gly Val Leu Val Trp Ile Met Phe Thr Ala  
 245 250 255  
 Gly Glu Lys Ala Val Leu Tyr Ala Asn Asp Arg Ile His Phe Thr Glu  
 260 265 270  
 Asp Gly Lys Tyr Val Pro Gly Lys Leu Leu Ser Ser Asp Ile Ser Pro  
 275 280 285  
 Phe His Gln Ile Tyr Asp Trp Asp Val Gln Tyr Pro Trp Ile Arg Ser  
 290 295 300  
 Lys Pro Glu Ile Ser Val Arg Tyr Arg Ile Arg Leu Arg Tyr Pro Gly  
 305 310 315 320  
 Ala Asn Asp Ala Gly Ile Glu Gln Ser Glu Tyr Glu Pro Glu Ala Cys  
 325 330 335  
 Phe Pro Ala Trp Ile Val Pro Gln Glu Gly Gly Gln Thr Gly Leu Cys  
 340 345 350  
 Leu Glu Glu Pro Ser Thr Gly Gln Tyr Phe Ile Pro Asp Met Thr Gly  
 355 360 365  
 Leu Pro Gly Leu Pro Glu Leu Gln Pro Asp Gly Ile Pro Leu Arg Val  
 370 375 380  
 Glu Leu Leu Ile Arg Gln Ala His Trp Ile Ser Asp Val Ala Asp Pro  
 385 390 395 400  
 Ala Tyr Leu Lys Ile Ile Ser Tyr Ser Ala Ser Leu Lys Ala Phe Ser  
 405 410 415  
 Thr Lys Ile Ser Asp Asn Gln Glu Val Lys Ser Cys Asn Ile Gln Thr  
 420 425 430  
 Glu Ile

&lt;210&gt; 10358

&lt;211&gt; 154

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10358

Ala Leu Leu Asp Val Pro Glu Pro Pro Val Lys Thr Val Gln Arg Leu  
 1 5 10 15  
 Asn Ile Gln Ile Asn Val Ser Gly Asn Thr Ala Pro Leu Ala Gly Leu  
 20 25 30  
 Lys Gly Thr Leu Thr Gly Ile Ser Thr Gly Arg Tyr Leu Val Ser Arg  
 35 40 45  
 Glu Arg Thr Gly Asn Ala Ser Val Thr Ser Leu Phe Ala Arg Lys Pro  
 50 55 60  
 Glu Thr Asp Arg Trp Lys Thr Ser Leu Tyr Ala Phe Gly Phe Asn Pro  
 65 70 75 80  
 Ala Ala Glu Asn Ile Leu Ser Val Lys Ile Glu Met Asp Gly Lys Asp  
 85 90 95



Ser Val Phe Asn Glu Glu Gln Lys Val Asp Leu Thr Pro Tyr Leu Arg  
 100 105 110  
 Gly Phe Asp Ser Asp Glu Leu Ser Leu Glu Leu Asp Leu His Ile Gly  
 115 120 125  
 Lys Glu Leu Thr Ile Gly Glu Pro Val Val Ile Pro Asp Trp Glu Asp  
 130 135 140  
 Ile Pro Glu Thr Glu Leu Pro Asn Tyr Asn  
 145 150

<210> 10359  
 <211> 283  
 <212> PRT  
 <213> B.fragilis

<400> 10359  
 Gly Gly Lys Glu Asn Ser Gln Asp Leu Pro Gly Asn Lys Pro Val Arg  
 1 5 10 15  
 Thr Ala Gln Lys Gly Ile Glu Val Arg Gly Met Glu Glu Ala Tyr Gly  
 20 25 30  
 Asn Leu Asn Ala Ala Tyr Leu Gln Ile Lys Gly Met Val Val Ile Glu  
 35 40 45  
 Gly Phe Tyr Ala Leu Ile Ala Gly Phe Val Ile Thr Thr Phe Val Phe  
 50 55 60  
 Lys Leu Val Gly Ile Ile Lys Glu Met Thr Asn Glu Gly Lys Gly Phe  
 65 70 75 80  
 Asn Ala Arg His Phe Tyr Glu Leu Gly Arg Glu Tyr Ile Phe Cys Ile  
 85 90 95  
 Gly Leu Ile Cys Ile Met Pro Val Leu Leu Gly Ala Leu Glu Thr Val  
 100 105 110  
 Leu Ala Tyr Gly Ala Asp Glu Leu Met Lys Ser Leu Ala Ser Gly Gly  
 115 120 125  
 Val Tyr Asn Pro His Asn Ile Trp Lys Asp Pro Ile Ser Ala Met Leu  
 130 135 140  
 Asp Glu Leu Met Asn Gly Asp Ile Thr Asp Ile Ala Val Asn Gly Ile  
 145 150 155 160  
 Asp Thr Leu Lys Trp Ser Leu Ile Ser Gly Thr Val Gly Ser Leu Phe  
 165 170 175  
 Gly Val Ala Tyr Asp Tyr Ile Met Leu Leu Phe Leu Cys Thr Arg Tyr  
 180 185 190  
 Leu Ile Leu Leu Leu Glu Ile Ile Ser Pro Ile Ala Ile Ala Cys  
 195 200 205  
 Leu Tyr Asn Lys Asp Thr Arg Ser Ser Phe Tyr Thr Trp Val Lys Gln  
 210 215 220  
 Met Leu Gly Cys Tyr Met Leu Tyr Pro Gly Phe Ile Leu Ala Ser Val  
 225 230 235 240  
 Phe Ser Asp Leu Ile Val Thr Asn Tyr Val Leu Gln Arg Ser Trp Ser  
 245 250 255  
 Val Leu Leu Met Val Ile Phe Ser Phe Leu Leu Lys Leu Thr Met Leu  
 260 265 270  
 Gly Thr Val Lys Ala Thr Val Asn Lys Trp Leu  
 275 280

<210> 10360  
 <211> 548  
 <212> PRT  
 <213> B.fragilis

<400> 10360  
 Pro Ala Gly Glu Pro Ser Gly Ser Pro Ile Lys Lys Arg Ile Met Val

1	5	10	15
Arg Ala Ile Thr Thr Ile Val Cys Ser Leu Leu Leu Leu Leu Ala Phe			
20		25	30
Ser Cys Ser Arg Glu Asp Thr Gly Pro Gln Glu Thr Ile Pro Gly Ser			
35		40	45
Gly Ile Val Thr Phe Thr Ala Met Thr Gly Gln Gly Glu Thr Arg Ser			
50		55	60
Ser Gln Glu Gly Ser Phe Glu Thr Gly Asp Ala Ile Gly Val Phe Ala			
65		70	80
Ile Glu Pro Lys Thr Gly Val Tyr Trp Ala Val Asn Asn Lys Tyr Thr			
85		90	95
Tyr Asp Gly Gln Lys Phe Lys Pro Glu Ala Glu Ala Asp Asn Ile Ile			
100		105	110
Val Thr Val Gly Thr Asp Phe Asp Phe Tyr Val Tyr Tyr Pro Phe Lys			
115		120	125
Ala Gly Gln Thr Asp Ile Thr Gly Ile Ser His Thr Ala Gly Asn Gln			
130		135	140
Ser Asp Lys Ser Gly Trp Leu Ser Ala Asp Phe Met Thr Ala Thr Tyr			
145		150	160
Thr Asp Pro Ile Arg Asn Tyr Thr Val Pro Leu His Phe Lys His Arg			
165		170	175
Met Ser Thr Val Glu Val Arg Ile Asp Arg Asn Asp Gly Val Arg Glu			
180		185	190
Ala Thr Met Glu Asn Val Lys Arg Thr Ser Arg Phe Asn Leu Leu Thr			
195		200	205
Gly Gly Ile Thr Thr Asp Glu Ser Arg Gly Ser Cys Thr Met His Lys			
210		215	220
Tyr Ser Glu Thr Gly Gly Thr Thr Val Phe Arg Val Thr Ile Pro Ala			
225		230	240
Gln Arg Leu Thr Thr Ser Ser Asn Tyr Val Ala Leu Thr Gly Thr Thr			
245		250	255
Pro Ile Lys Leu Arg Gly Thr Ser Asp Met Val Thr Glu Glu Gly Lys			
260		265	270
Ile His Asn Tyr Arg Met Asp Tyr Lys Lys Gln Val Thr Ile Leu Asp			
275		280	285
Tyr Ala Pro Gly Gly Thr Thr Thr Gly Ala Gly Leu Tyr Asn Thr Gly			
290		295	300
Ser Asn Cys Thr Val Ser Ala Ser Val Lys Pro Gly Tyr Glu Phe Ala			
305		310	320
Gly Trp Tyr Glu Gly Arg Ile Val Ser Gly Thr Ala Gln Tyr Ser			
325		330	335
Phe Glu Val Leu Ala Asp Arg Thr Leu Glu Pro Lys Tyr Arg Asn Tyr			
340		345	350
Gly Ser Trp Arg Val Thr Leu Thr Ala Asn Pro Ser Ala Ile Ser Trp			
355		360	365
Lys Gly Gly Thr Ser Thr Leu Ser Ala Gly Ala Ser Arg Glu Val Phe			
370		375	380
Val Asn Gly Val Lys Glu Thr Leu Gln Gly Gly Ser Pro Ser Ile Ser			
385		390	400
Gly Gly Thr Glu Gly Phe Phe Leu Ser Gly Asn Thr Val Ser Val Ser			
405		410	415
Glu Asn Asn Thr Ala Ser Ala Arg Ser Cys Val Phe Thr Ala Ser His			
420		425	430
Gly Gly Ser Ser Ala Thr Ala Thr Ile Ser Gln Glu Ala Pro Pro Val			
435		440	445
Ser Tyr Val Phe Glu Tyr Ser Asp Gly Thr Val Ala His Ser Glu Arg			
450		455	460
Ala Glu Ala Gly Ala Gly Ser Phe Leu Leu Ser Ile Thr Ser Arg Lys			
465		475	480

Thr Ile Gly Asn Ser Ile Lys Glu Leu Ser Trp Ser Ala Ser Gly Asp  
                             485                            490                            495  
 Ser Trp Ile His Val Ser Gly Ser Ser Val Ser Tyr Asp Glu Asn Pro  
                             500                            505                            510  
 Thr Lys Glu Ile Arg Ser Gly Ser Val Thr Leu Thr Gln Ala Glu Ser  
                             515                            520                            525  
 Gly Lys Thr Leu Thr Leu Thr Val Arg Gln Lys Gly Lys Thr Ser Ile  
                             530                            535                            540  
 Asp Ile Asn Pro  
 545

<210> 10361

<211> 148

<212> PRT

<213> B.fragilis

<400> 10361

Gly Tyr Ile Arg Leu Leu Gln Ala Phe Gln Pro Cys Lys Tyr Lys Val  
 1                            5                            10                            15  
 Gln Asp Thr Gly Val Val Asp Val Gln Ala Ser Phe Lys Val Ala Arg  
                             20                            25                            30  
 Val Gly Thr Val Gln Glu Arg Ala Gly Ala Phe Ala Arg Val Val Leu  
                             35                            40                            45  
 Phe Phe Lys Glu Tyr Ile Leu Phe Val Tyr Val Gly Thr Val Gly His  
                             50                            55                            60  
 Val Pro Glu Gly Phe Pro Val His Pro Val Pro Phe Val Asp Val Phe  
 65                            70                            75                            80  
 Arg Gly Lys Gly Ile Ala Leu Arg Leu Pro Glu Leu Glu Arg Asp Thr  
                             85                            90                            95  
 Tyr Ala Ala Ala Pro Gly Gln Asp His Ala Leu Ser Ile Gly Leu Ala  
                             100                            105                            110  
 Asp Asn Val Lys Tyr Ala Val Cys Leu Phe Leu Phe His Leu Val Ser  
                             115                            120                            125  
 Ser Ser Glu Val Val Cys Leu Trp Leu Ser Tyr Ser Arg Ser Cys Arg  
                             130                            135                            140  
 Thr Ser Ile Pro  
 145

<210> 10362

<211> 204

<212> PRT

<213> B.fragilis

<400> 10362

Pro Thr Ile Arg Ala Leu Met Thr Arg Asp Gly Lys Ser Arg Ile Ala  
 1                            5                            10                            15  
 Ile Leu Ala Gly Leu Gly Ile Val Val Val Leu Leu Val Trp Ala Phe  
                             20                            25                            30  
 Ile Ala Ser Leu Pro Ala Ser Gly Ser Lys Glu Pro Glu Thr Gly Glu  
                             35                            40                            45  
 Val Ile Leu Arg Thr Arg Ile Lys Asp Ser Phe Thr Leu Asp Asp Met  
                             50                            55                            60  
 Leu Gln Lys Val Gly Lys Glu Asn Thr Ser Lys Ser Ala Ser Leu Ser  
 65                            70                            75                            80  
 Gly Phe Asp Pro Val Thr Glu Glu Pro Ala Asp Thr Ala Gly Asn Glu  
                             85                            90                            95  
 Arg Glu Ile Arg Arg Ile Gln Glu Leu Ile Arg Asp Asn Glu Arg Glu  
                             100                            105                            110  
 Leu Gly Ala Gly Ile Thr Val Pro Val Gln Gln Pro Val Ala Ser Arg

[illegible]

<400> 10363

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<210> 10364
<211> 151
<212> PRT
<213> B.fragilis
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<400> 10364

Ala	Phe	Thr	Ile	Ile	Asn	Ile	Met	Pro	Thr	Asn	Tyr	Asn	Gln	Leu	Leu
1				5					10					15	
Lys	Asp	Leu	Glu	Ile	Gly	Ser	Val	Tyr	Ile	Lys	Ile	Phe	Ile	Cys	Phe
			20					25					30		
Leu	Gly	Cys	Thr	Phe	Met	Leu	Tyr	Pro	Val	Leu	Phe	Tyr	Phe	Thr	His
		35					40					45			
Phe	Phe	Arg	Glu	Leu	Ser	Val	Tyr	Glu	Gln	Ile	Phe	Phe	Ala	Leu	Gly
	50					55					60				
Ser	Ser	Ala	Leu	Tyr	Thr	Gly	Leu	Gly	Val	Pro	Leu	Ser	Ile	Thr	Ser
65					70					75					80

Ala Ile Arg Tyr Pro Gly Val Phe Tyr Leu Pro Leu Met Leu Leu Ser  
                     85                    90                    95  
 Val Ser Val Ile Ala Thr Ile Tyr Ile Val Phe Phe Met Ala Arg Ser  
                     100                    105                    110  
 Tyr Asp Pro Leu Thr Thr Leu Leu Trp Ile Leu Pro Thr Ser Tyr Leu  
                     115                    120                    125  
 Leu Asn Leu Ile Thr Gly Val Ile Ser Ile Leu Arg Glu Lys Lys Tyr  
                     130                    135                    140  
 Pro Lys Thr Glu Met Tyr Tyr  
                     145                    150

&lt;210&gt; 10365

&lt;211&gt; 217

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10365

Glu Leu Val Leu Leu Val Ile Gly Thr Glu Glu Glu Thr Gly Arg Ile  
 1                    5                    10                    15  
 Phe Arg Lys Ala Arg Gly Gly Met Asp Gly Gly Thr Leu Thr Gln Asp  
                     20                    25                    30  
 Pro His Phe Pro Gly Leu Ile Ala Val Asp Asp Ala Gln Asp Gly Gly  
                     35                    40                    45  
 Glu Pro Asp Met Val Leu Leu Thr Val Gly Ala Tyr Val Asp Asp Leu  
                     50                    55                    60  
 Phe Lys Leu Arg Leu Val Asp Asn Ser Glu Phe Gln Arg Ile Ala Ile  
 65                    70                    75                    80  
 Gly Thr Val Arg Leu Val Phe Gly Lys Tyr Gly Ile Cys Val Arg Leu  
                     85                    90                    95  
 Ile Asp Gln Glu Gln Gly Thr Gly Thr Val Phe Leu Lys Gly Lys Pro  
                     100                    105                    110  
 Val Glu Ala Val Gln Glu Ile Gly Arg Pro Ala Ala Val Ala Phe Gln  
                     115                    120                    125  
 Glu Ala Phe Val Gln Gln Val Leu Leu His Gly Leu Glu Met Asp Glu  
                     130                    135                    140  
 Phe Pro Ala Phe Val Asp His Gln Tyr Leu Val His Arg Ile Val His  
 145                    150                    155                    160  
 His Ala Val Arg Glu Glu Gln Asp His Arg Asp Gly Tyr Pro Ala Glu  
                     165                    170                    175  
 Asn Glu Tyr Gln Pro Gly Ala Gln Arg Ile Ala Leu Pro Gly Phe Gly  
                     180                    185                    190  
 Gln Ala Gly Glu Ile Leu Glu Tyr Ala Leu Tyr Ile Glu Tyr Ala Phe  
                     195                    200                    205  
 Gly Cys Phe His Glu Ser Phe Ile Ile  
                     210                    215

&lt;210&gt; 10366

&lt;211&gt; 204

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10366

Asn Phe His Lys Arg Arg Pro Asn Gln Ser Asn Phe Phe Lys Lys Glu  
 1                    5                    10                    15  
 Arg Asp Pro Arg Ile Leu Tyr Leu Gln Val Arg Gln Gln Gly Gln Pro  
                     20                    25                    30  
 Gln Ala Lys Glu Arg Phe Arg Asp Leu Phe Val Ile Gly Cys Leu Thr  
                     35                    40                    45  
 Ala Leu Arg Tyr Ser Asp Tyr Ser Thr Leu Thr Gln Asp Asn Leu Gln

50                      55                      60  
 Gly Cys Phe Ile Val Lys Arg Thr Arg Lys Thr Asn Val Asp Val Lys  
 65                      70                      75                      80  
 Val Pro Ala His Asp Tyr Val Lys Glu Ile Phe Glu Lys Tyr Asp Gly  
                     85                      90                      95  
 Asp Ile Pro Thr Gly Leu Cys Ile Gln His Phe Asn Lys Tyr Leu Lys  
                     100                      105                      110  
 Val Ile Met Arg Glu Ile Gly Leu Thr Asp Lys Val Ser Tyr Ser Phe  
                     115                      120                      125  
 Thr Gln Gly Gly Lys Leu His Thr Val Thr Lys Glu Lys Trp Glu Leu  
                     130                      135                      140  
 Ile Ser Ser His Thr Ala Arg Arg Ser Ala Ala Thr Asn Met Tyr Leu  
 145                      150                      155                      160  
 Thr Gly Arg Met Lys Thr Leu Glu Ile Met Lys Leu Thr Arg His Arg  
                     165                      170                      175  
 Ser Glu His Asn Phe Phe Arg Tyr Ile Arg Leu Thr Gly Asp Asp Thr  
                     180                      185                      190  
 Ala Arg Ser Ile Ser Gly Asp Met Phe Phe Arg Lys  
                     195                      200

<210> 10367  
 <211> 71  
 <212> PRT  
 <213> B.fragilis

<400> 10367  
 Arg Ile Leu Lys Ile Ile Thr Met Lys Lys Phe Ile Glu Val Ser Thr  
 1                      5                      10                      15  
 Glu Asn Gly Lys Phe Leu Val Asn Val Asn Thr Ile Ser Cys Leu Tyr  
                     20                      25                      30  
 Thr Ile Lys Asp Gly Arg Thr Arg Ile Thr Leu Thr Ala Pro Ser Ser  
                     35                      40                      45  
 Lys Gly Asp Ile Phe Ile Asn Ala Gln Glu Ser Tyr Glu Glu Val Lys  
                     50                      55                      60  
 Ala Leu Ile Lys Ala Ala Leu  
 65                      70

<210> 10368  
 <211> 79  
 <212> PRT  
 <213> B.fragilis

<400> 10368  
 Asp Met Asn Ile Asp Thr Glu Phe Asn Val Gly Asp Ser Val Cys Tyr  
 1                      5                      10                      15  
 Leu Ser Gly Asp Asn Ile Cys His Ser Thr Ile Ser Lys Ile Thr Ile  
                     20                      25                      30  
 Glu Ile Ser Tyr Thr Asp Arg Ser Phe Ser Met Val Tyr Lys Leu Ser  
                     35                      40                      45  
 Asp Gly Leu Ser Val Pro Arg Asn Asn Tyr Pro Gln Trp Asp Lys Lys  
                     50                      55                      60  
 Leu Phe Arg Asp Lys Asp Asp Leu Ile Arg Tyr Leu Ser Glu Ser  
 65                      70                      75

<210> 10369  
 <211> 150  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 10369

Leu	Lys	Arg	Ile	Leu	Glu	Lys	Ser	Met	Lys	Ser	Thr	Glu	Ile	Leu	Lys
1				5					10					15	
Arg	Ile	Gln	Ile	Gln	His	Leu	Leu	Thr	Ser	Ser	Ala	Val	Asp	Ser	Leu
		20						25					30		
Ala	Arg	Thr	Ser	Ala	Leu	Leu	Glu	Lys	Val	Ser	Glu	Leu	Ser	Val	Lys
		35						40					45		
Glu	Ala	Ala	Tyr	Gly	Leu	Lys	Cys	Ile	Glu	Leu	Tyr	Gly	Lys	Leu	Asp
	50					55					60				
Leu	Asn	Thr	Ser	Ser	Leu	Lys	Thr	Ala	Gln	Cys	Ser	Leu	Phe	Gly	Asp
65					70					75					80
Leu	Asn	Glu	Ser	Tyr	Ala	Thr	Phe	Pro	Lys	Ser	Gly	Met	Met	Gln	Asn
				85					90					95	
Gly	Asn	Val	Tyr	Gln	Ala	Pro	Thr	Leu	Val	Tyr	Asn	Arg	Val	Gly	Asn
		100						105						110	
Gly	Tyr	Ile	Val	Leu	Pro	Thr	Pro	Val	Lys	Ser	Thr	Ala	Asn	Gly	Ala
		115					120							125	
Cys	Lys	Asn	Arg	Tyr	Phe	Gly	Ser	Pro	Thr	Ser	Ser	Pro	Arg	Gly	Trp
	130					135						140			
Lys	Asp	Ser	Ala	Cys	Val										
145					150										

&lt;210&gt; 10370

&lt;211&gt; 72

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10370

Tyr	Arg	Gln	Ile	His	Lys	Arg	Arg	Tyr	Val	Phe	Gln	Lys	Ile	Asn	Leu
1				5					10					15	
Leu	Asn	Phe	Lys	Ile	Thr	Ile	Met	Ile	Lys	Lys	Ile	Ile	Arg	Tyr	Leu
		20						25					30		
Arg	Lys	Arg	Lys	Asp	Met	Lys	Leu	Arg	Lys	Trp	Cys	Ile	Thr	Leu	Ala
		35					40					45			
Ala	Asn	Glu	Leu	Ser	Arg	Gly	Glu	Ala	Ile	Asp	Ala	Ala	Asn	Glu	Ile
	50					55					60				
Tyr	Lys	Trp	Val	Lys	Glu	Gln	Pro								
65					70										

&lt;210&gt; 10371

&lt;211&gt; 205

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10371

Ser	Tyr	Lys	Ile	Phe	Ile	Arg	Ile	Ile	Thr	Asn	Leu	Glu	Met	Lys	Gln
1				5					10					15	
Ser	Glu	Leu	Thr	His	Gly	Ser	Leu	Phe	Ser	Gly	Ile	Glu	Gly	Phe	Gly
		20						25					30		
Leu	Gly	Ala	Ala	Phe	Ser	Gly	Ile	Arg	Thr	Leu	Trp	Ser	Cys	Glu	Tyr
		35					40					45			
Glu	Asp	Tyr	Gln	Thr	Ser	Ile	Ile	Lys	Lys	Asn	Phe	Gly	Glu	Glu	His
	50					55					60				
Glu	Ile	Asn	Arg	Asp	Ile	Lys	Thr	Tyr	Ser	Asn	Pro	Thr	Phe	Val	Asp
65					70					75					80
Ile	Ile	Ser	Gly	Gly	Phe	Pro	Cys	Gln	Asp	Ile	Ser	Val	Ala	Gly	Lys
				85					90					95	
Gly	Val	Gly	Ile	Val	Gly	Glu	Arg	Ser	Gly	Leu	Trp	Thr	Glu	Met	Tyr
		100						105						110	

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Arg	Val	Ile	Arg	Glu	Val	Arg	Pro	Lys	Tyr	Ile	Ile	Ile	Glu	Asn	Ser
	115						120						125		
Pro	Met	Leu	Leu	Ile	Arg	Gly	Phe	Glu	Arg	Val	Leu	Cys	Asn	Leu	Ser
	130					135					140				
Glu	Ile	Gly	Tyr	Asp	Ala	Glu	Trp	Gln	Cys	Leu	Ser	Gly	Thr	Asp	Phe
145					150					155					160
Gly	Ile	Gln	Gln	Gly	Arg	Glu	Arg	Leu	Tyr	Cys	Leu	Ala	Tyr	Ser	Cys
				165					170					175	
Glu	Ile	Asn	Ser	Lys	Arg	Ser	Met	Gln	Glu	Ser	Ile	Phe	Arg	Lys	Pro
		180					185						190		
Tyr	Val	Phe	Thr	Thr	Gly	Leu	Glu	Gly	Gln	Arg	Val	Arg			
	195						200					205			

&lt;210&gt; 10372

&lt;211&gt; 276

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10372

Tyr	Ile	Ser	Leu	Trp	Arg	His	Arg	Pro	Cys	Arg	Arg	Ser	Asn	Phe	Ser
1			5					10					15		
Ile	Pro	Asp	Arg	Val	Lys	Tyr	Asp	Lys	Asp	Cys	Phe	Thr	Ile	Glu	Gly
		20					25					30			
Lys	Asp	Ile	Phe	Ile	Leu	Ser	Ala	Ala	Phe	His	Tyr	Phe	Arg	Cys	Pro
	35					40						45			
Gln	Glu	Leu	Trp	Arg	Asp	Arg	Phe	Arg	Lys	Ile	Lys	Glu	Ala	Gly	Phe
50					55						60				
Asn	Thr	Val	Glu	Thr	Tyr	Val	Pro	Trp	Asn	Trp	His	Glu	Arg	Asn	Met
65				70				75						80	
Pro	Lys	Ser	Val	Asp	Asp	Tyr	Ser	Gln	Cys	Asn	Phe	Asp	Asp	Leu	Lys
			85					90						95	
Ala	Trp	Leu	His	Met	Ala	His	Glu	Glu	Phe	Gly	Leu	Tyr	Thr	Ile	Val
			100				105						110		
Arg	Pro	Gly	Pro	Phe	Ile	Cys	Ala	Glu	Trp	Ala	Gly	Gly	Ala	Tyr	Pro
	115					120						125			
Arg	Trp	Leu	Ala	Lys	Phe	Cys	Pro	Asp	Ser	Tyr	Asp	Thr	Ser	Phe	Trp
130					135						140				
Leu	Arg	Ser	Asn	His	Pro	Glu	His	Met	Lys	Trp	Ser	Glu	His	Trp	Tyr
145				150					155					160	
Asn	Ala	Val	Cys	Arg	Val	Phe	Ser	Glu	Glu	Gln	Leu	Thr	Arg	Lys	Gln
			165					170						175	
Pro	Gly	Glu	Lys	Gly	Ile	Ile	Met	Val	Gln	Leu	Glu	Asn	Glu	Tyr	Ile
		180					185						190		
Tyr	Phe	Asp	Met	Glu	Ser	Glu	Lys	Lys	Glu	Glu	Phe	Leu	Arg	Val	Leu
	195						200					205			
Ser	Asp	Ala	Cys	Ile	Arg	Asn	Gly	Ile	Asp	Val	Pro	Leu	Phe	Thr	Cys
	210					215					220				
Val	Thr	Pro	Glu	Val	Arg	Gly	Ser	His	His	Pro	Val	Ile	Ser	Gln	Leu
225				230						235				240	
Phe	Asp	Met	Asn	Asn	Gln	Tyr	Val	Trp	Trp	Asn	Met	His	Glu	Ala	Lys
			245					250						255	
Ser	Arg	Ile	Glu	Lys	Leu	Glu	Asn	Arg	Val	Phe	Thr	Ser	Arg	Trp	Ser
		260					265						270		
Thr	Thr	Gly	Val												
		275													

&lt;210&gt; 10373

&lt;211&gt; 217

&lt;212&gt; PRT



&lt;213&gt; B.fragilis

&lt;400&gt; 10373

Glu Lys Phe Val Leu Gly Cys Ile Lys Arg Ile Trp Gly Tyr Pro His  
 1 5 10 15  
 Ile Leu Glu Asn Gly Ile Leu Tyr Leu Leu Ile Arg Lys Thr Cys Arg  
 20 25 30  
 Ala Gly Lys Asn His Ile Ser Val Thr Ala Asp Gly Leu Arg Gly Gly  
 35 40 45  
 Thr Arg Gly Ile Val Thr Arg Arg Tyr Asp Gly Val Phe Val Pro Glu  
 50 55 60  
 Gly Tyr Leu Val Pro Tyr Ser Gly Asp Glu Glu Gly Val Val Val  
 65 70 75 80  
 Lys Ala Thr Ala Trp Glu Asn Val Ile Cys Thr Lys Thr Pro Leu Lys  
 85 90 95  
 Val Val Arg Val Glu Ala Thr Ser Glu Gln Lys Arg Tyr Glu Ala Ser  
 100 105 110  
 His Ile Thr Asp Gly Asp Asp Phe Ser Trp Trp Ile Ala Asp Asp Glu  
 115 120 125  
 Ser Gln Pro Gln Ile Val Leu Leu Glu Leu Glu Arg Ser Val Asn Val  
 130 135 140  
 Phe Ala Ser Arg Ile Arg Phe Gln Lys Asp Ser Ser Thr Tyr Thr His  
 145 150 155 160  
 Lys Val Glu Ile Ser Ile Asp Gly Lys Asn Trp Glu Thr Leu Tyr Glu  
 165 170 175  
 Arg Glu Cys Thr Gly Trp Asp Phe Lys Pro Val Gln Ile Gly Lys Glu  
 180 185 190  
 Leu Lys Tyr Met Arg Leu Thr Ile Glu Lys Ser Ser Glu Gly Ala Ala  
 195 200 205  
 Gly Leu Ala Glu Val Thr Leu Tyr Gln  
 210 215

&lt;210&gt; 10374

&lt;211&gt; 362

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10374

Asn Pro Lys Pro Met Lys Leu Lys His Ile Pro Leu Leu Leu Val  
 1 5 10 15  
 Leu Thr Cys Cys Pro Ala Cys Gln Asn Lys Lys Ala Ser Ala Thr Lys  
 20 25 30  
 Glu Ile Pro Ser Glu Ala Thr Tyr Thr Asn Pro Leu Leu Ala Val Gly  
 35 40 45  
 Ala Glu Pro Trp Ala Val Phe His Glu Gly Lys Tyr Tyr Tyr Thr Gln  
 50 55 60  
 Gly Ala Glu Asn Lys Ile Ile Leu Trp Glu Thr Asn Asp Ile Thr Asp  
 65 70 75 80  
 Leu Glu His Ala Ala Arg Lys Glu Val Trp Ile Pro Lys Glu Ile Ser  
 85 90 95  
 Asn Ser Tyr His Leu Trp Gly Pro Glu Ile His Arg Ile Asp Gly Lys  
 100 105 110  
 Trp Tyr Val Tyr Phe Ala Ala Asp Asp Gly Asn Met Asp Asn His His  
 115 120 125  
 Ile Tyr Val Ile Glu Asn Ser Ser Pro Asn Pro Leu Glu Gly Glu Phe  
 130 135 140  
 Val Met Lys Gly Arg Ile Lys Thr Asp Lys Asp Asp Asn Trp Ala Ile  
 145 150 155 160  
 His Ala Ser Thr Phe Glu His Gln Gly Gln Arg Tyr Leu Ile Trp Cys

10373  
 10374  
 362  
 PRT  
 B.fragilis

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<210> 10375
<211> 205
<212> PRT
<213> B.fragilis
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<400>	10375															
Lys	Asp	Tyr	Tyr	Gly	His	Gly	Thr	Glu	Ala	Arg	Lys	Pro	Gly	Thr	Ala	
1				5					10					15		
Ile	Ala	Arg	Thr	Leu	Phe	Gly	Glu	Leu	Asn	Pro	Ser	Gly	Lys	Leu	Pro	
			20					25					30			
Val	Thr	Phe	Glu	Lys	Arg	Trp	Glu	Asp	Asn	Pro	Thr	Phe	His	Ser	Tyr	
		35					40					45				
Tyr	Asp	Pro	Asp	Gly	Asp	Lys	His	Val	Glu	Tyr	Thr	Glu	Gly	Ile	Phe	
	50					55					60					
Val	Gly	Tyr	Arg	Gly	Tyr	Asp	Lys	Leu	Lys	Arg	Glu	Val	Gln	Tyr	Pro	
65					70					75					80	
Phe	Gly	Tyr	Gly	Leu	Ser	Tyr	Thr	Arg	Phe	Lys	Leu	Ser	Ala	Pro	Thr	
				85					90					95		
Val	Gly	Thr	Pro	Lys	Thr	Asp	Gly	Ser	Val	Thr	Val	Thr	Cys	Lys	Leu	
			100					105					110			
Thr	Asn	Thr	Gly	Arg	Thr	Ala	Gly	Ala	Glu	Val	Val	Gln	Leu	Tyr	Val	
		115					120					125				
Ser	Asn	Lys	Asp	Thr	Thr	Val	Glu	His	Pro	Glu	Lys	Glu	Leu	Lys	Gly	
	130					135					140					
Phe	Arg	Lys	Val	Tyr	Leu	Glu	Pro	Gly	Glu	Thr	Lys	Ser	Ile	Glu	Ile	
145					150					155					160	
Thr	Val	Pro	Ala	Glu	Ala	Phe	Ser	His	Tyr	Asp	Thr	Gly	Ser	Arg	Arg	
				165					170					175		
Leu	Val	Ile	Asp	Arg	Gly	Ser	His	Asp	Ile	Leu	Leu	Gly	Phe	Ser	Ser	
			180					185					190			
Arg	Asp	Ile	Lys	Ala	Lys	Met	Ser	Val	Gly	Ile	Ser	Arg				
		195					200					205				

<210> 10376  
 <211> 292  
 <212> PRT  
 <213> B.fragilis

<400> 10376

Leu Pro Met Asn Ala Leu His Pro Trp Arg Ser Thr Glu Glu Ile Leu  
 1 5 10 15  
 Lys Lys Gln Glu Gln Val Asn Arg Lys Lys Lys Glu Leu Gln Gln Val  
 20 25 30  
 Lys Val Ala Lys Glu Asn Leu Leu Arg Glu Arg Glu Gly Glu Lys Ala  
 35 40 45  
 Lys Leu Glu Ala Gln Glu Lys Glu Lys Arg Glu Ile Val Ala Gly Leu  
 50 55 60  
 Gln Lys Lys Gln Lys Gly Leu Gln Ser Glu Ile Ser Lys Lys Arg Arg  
 65 70 75 80  
 Glu Ala Asn Gln Leu Asn Ala Lys Ile Asp Lys Leu Ile Ala Glu Glu  
 85 90 95  
 Ile Glu Arg Ala Arg Lys Arg Ala Glu Glu Glu Ala Arg Arg Glu Ala  
 100 105 110  
 Ala Ala Arg Arg Lys Ala Ala Ala Lys Glu Ser Lys Ser Ser Ser Thr  
 115 120 125  
 Gly Gly Gly Thr Val Pro Ala Lys Lys Lys Ala Glu Pro Leu Glu Arg  
 130 135 140  
 Phe Thr Met Ser Lys Ala Asp Arg Glu Leu Ser Gly Asn Phe Val Ser  
 145 150 155 160  
 Asn Arg Gly Lys Leu Pro Met Pro Ile Thr Gly Pro Tyr Ile Ile Thr  
 165 170 175  
 Ser His Tyr Gly Gln Tyr Ala Val Glu Gly Leu Arg Asn Val Lys Leu  
 180 185 190  
 Asp Asn Lys Gly Ile Asp Ile Gln Gly Lys Pro Gly Ala Gln Ala Arg  
 195 200 205  
 Ala Ile Phe Asp Gly Lys Val Ala Ala Val Phe Gln Leu Asn Gly Leu  
 210 215 220  
 Phe Asn Val Leu Ile Arg His Gly Asp Tyr Ile Ser Val Tyr Cys Asn  
 225 230 235 240  
 Leu Ser Ser Ala Ser Val Lys Ser Gly Asp Thr Val Thr Thr Arg Gln  
 245 250 255  
 Ala Ile Gly Pro Ile Phe Ser Asp Gly Ser Asp Asn Gly Arg Thr Val  
 260 265 270  
 Leu His Phe Gln Leu Arg Arg Glu Arg Asp Lys Leu Asn Pro Glu Pro  
 275 280 285  
 Trp Leu Asn Arg  
 290

<210> 10377  
 <211> 1050  
 <212> PRT  
 <213> B.fragilis

<400> 10377

Ile Gln His Met Arg Ile Ile Thr Leu Leu Ile Thr Leu Phe Ala Phe  
 1 5 10 15  
 Gly Ile Thr Pro Leu Gln Ala Phe Ser Tyr Phe Ser Phe Lys Lys Tyr  
 20 25 30  
 Gln Val Glu Asp Gly Leu Ser His Asn Thr Val Trp Cys Ala Met Gln  
 35 40 45  
 Asp Ser Tyr Gly Phe Ile Trp Leu Gly Thr Ser Asp Gly Leu Asn Cys  
 50 55 60

Tyr 65	Asn	Gly	Arg	Gly	Asn 70	Lys	Val	Tyr	Arg	Asn 75	Val	Leu	Asn	Asp	Lys 80
Phe	Ser	Leu	Glu	Asn 85	Asn	Phe	Val	Gln	Ala	Leu	Phe	Glu	Glu	Glu	Asn 90
His	Asn	Ile	Trp 100	Val	Gly	Thr	Asn	Trp	Gly	Leu	Tyr	Ile	Tyr	Asp	Arg 105
Glu	Tyr	Asp 115	Arg	Phe	Thr	Tyr	Phe	Asp	Lys	Lys	Thr	Arg	Tyr	Gly	Val 120
Phe	Ile	Ser	Ser	Glu	Ile	Lys	Lys	Ile	Ile	Lys	Ser	Glu	Ser	Gly	Leu 130
Ile	Trp	Ile	Ala	Thr	Leu	Gly	Gln	Gly	Leu	Phe	Val	Tyr	Asn	Pro	Gln 145
Thr	Asp	Val	Leu	Thr	Gln	Asn	Ser	Leu	Gln	Thr	Ser	Phe	Val	Trp	Asp 150
Val	Cys	Glu	Asn 180	Asn	Ser	Gly	His	Ile	Tyr	Ala	Ser	Ser	Leu	Gln	Glu 165
Gly	Leu	Leu	Cys 195	Phe	Asp	Glu	Asn	Gly	Lys	Phe	Leu	Gln	Ser	Tyr	Pro 200
Leu	Leu	Ser	Ala	Gly	Asn	Asn	Pro	Asp	Asn	Tyr	Arg	Ile	Asn	Cys	Leu 210
Leu	Asp	Ile	Arg	Ser	Asp	Ile	Trp	Phe	Gly	Ala	Gly	Ser	Asn	Leu	Leu 225
Tyr	Cys	Leu	Asn	Glu	Arg	Thr	Gly	Asn	Leu	Asp	Cys	Tyr	Asn	Ala	Ser 230
His	Leu	Asn	Phe 260	Gly	Ala	Ile	Arg	Cys	Leu	Leu	Asn	Tyr	Ser	Glu	Thr 245
Glu	Leu	Leu	Val	Gly	Thr	Asp	Asn	Gly	Leu	Tyr	Leu	Phe	Asp	Leu	His 255
Asp	Lys	Asn	Phe 290	Ser	Arg	Ile	Asp	Asn	Pro	Ser	Asp	Pro	Arg	Ser	Leu 300
Ser	Asp	Gln	Ser	Ile	Asn	Ala	Met	Met	Arg	Asp	Ala	Glu	Gly	Gly	Ile 305
Trp	Val	Leu	Thr	Asn	Leu	Gly	Gly	Val	Asn	Tyr	Leu	Ala	Lys	Pro	Thr 310
Lys	Arg	Phe	Asp 340	Tyr	Tyr	Pro	Pro	Val	Tyr	Arg	Asp	Gly	Gly	Val	Ala 325
Ala	Gly	Lys	Val	Val	Gly	Pro	Phe	Cys	Glu	Asn	Ala	Ala	Gly	Asp	Ile 335
Trp	Val	Gly	Thr	Arg	Asp	Gly	Leu	Cys	Phe	Phe	Asp	Val	Ser	Thr	His 345
Gln	Leu	Thr	Ala	Tyr	Pro	Ile	Gly	Gly	Gly	Val	Asp	Lys	Lys	Tyr	Asp 355
Ile	Arg	Ser	Leu	Leu	Leu	Asp	Gly	Glu	Arg	Leu	Trp	Ile	Gly	Thr	Tyr 365
Ala	Glu	Gly	Leu	Lys	Val	Leu	Asp	Leu	Arg	Thr	Gly	His	Val	Lys	Ser 370
Tyr	Asn	His	Leu	Gln	Asp	Thr	Pro	Asn	Thr	Ile	Cys	Ser	Asp	Asp	Val 380
Leu	Ala	Val	Tyr	Lys	Asp	Arg	Ser	Gly	Asp	Ile	Phe	Val	Gly	Thr	Ser 390
Trp	Gly	Leu	Cys	Arg	Tyr	Asn	Pro	Arg	Glu	Asp	Asn	Phe	Ser	Thr	Ile 400
Thr	Thr	Val	Gly	Ser	Met	Val	Ser	Val	Val	Asp	Ile	Leu	Glu	Asp	Met 410
Tyr	Asp	Asn	Leu	Trp	Ile	Gly	Thr	Ser	Asn	Ser	Gly	Val	Phe	Arg	Phe 420
Asn	Thr	Arg	Asn	Gly	His	Trp	Lys	His	Phe	Gln	His	Glu	Arg	Asn	Asp 430
Ser	Thr	Thr	Ile	Thr	Asn	Asn	Ser	Val	Ile	Thr	Leu	Phe	Glu	Asp	Leu 440

530		535		540
Lys Gly Thr Met Trp	Val Gly Thr Asn Gly Gly Gly Leu Cys Ser Phe			
545	550	555		560
Asp Pro Lys Thr Glu Thr Phe Ile Asp Phe Asp Pro Asp Asn Thr Ile				
	565	570		575
Leu Pro Asn Arg Val Ile Tyr Ser Ile Glu Gln Asp Lys Thr Gly Asp				
	580	585		590
Phe Trp Ile Ser Ser Asn Ala Gly Leu Ile Thr Ile Asn Pro Ile Thr				
	595	600		605
Lys Gln His Phe Arg Gln Phe Thr Val Asn Asp Gly Leu Gln Gly Asn				
	610	615		620
Gln Phe Thr Ala Gln Ser Ser Leu Lys Thr Ala Ser Gly Lys Leu Tyr				
625	630	635		640
Phe Gly Gly Ile Ser Gly Phe Asn Ser Phe Val Pro Asp Gln Phe Met				
	645	650		655
Asp Asn Gln Tyr Ile Pro Ser Val Tyr Ile Thr Glu Ile Arg Leu Pro				
	660	665		670
Tyr Thr Thr Asp Glu Arg Leu Val Gln Asp Ile Leu His Leu Glu Gly				
	675	680		685
Pro Leu Tyr Arg Ala Glu Thr Ile Thr Leu Pro Tyr Glu His Asn Thr				
	690	695		700
Phe Ser Val Ser Phe Val Ala Leu Ser Tyr Glu Asp Pro Leu Lys Asn				
705	710	715		720
Arg Tyr Ser Tyr Arg Leu Lys Gly Val Asp Lys Glu Trp Val Ile Asn				
	725	730		735
Ser Glu Gln Asn Thr Ala Ser Tyr Thr Asn Leu Pro Pro Gly Lys Tyr				
	740	745		750
Glu Phe Glu Val Arg Gly Ser Asn Asn Asp His Lys Trp Asn Asp Gln				
	755	760		765
Thr Thr Ser Leu Leu Ile Val Val Thr Pro Pro Trp Trp Leu Thr Thr				
	770	775		780
Trp Ala Tyr Cys Val Tyr Thr Leu Leu Leu Leu Gly Leu Ala Tyr Tyr				
785	790	795		800
Ala Gly Trp His Trp Asn Arg His Val Lys Lys Lys Tyr Lys Arg Arg				
	805	810		815
Met Glu Glu Tyr Gln Thr Thr Lys Glu Lys Glu Val Tyr Lys Ser Lys				
	820	825		830
Ile Ser Phe Phe Ile Asn Leu Val His Glu Ile Arg Thr Pro Leu Ser				
	835	840		845
Leu Ile Arg Leu Pro Leu Glu Lys Leu Leu Glu Asp Lys Arg Glu Gly				
	850	855		860
Arg Asp Ala Lys Tyr Leu Ser Val Ile Asp Arg Asn Val Asn Tyr Leu				
865	870	875		880
Leu Gly Ile Thr Asn Gln Leu Leu Asp Phe Gln Lys Met Glu Asn Gly				
	885	890		895
Gly Val Gln Leu Ser Leu Lys Lys Cys Asp Ile Asn Gln Leu Val Ser				
	900	905		910
Asp Val His Ser Gln Phe Thr Ser Pro Ala Glu Leu Lys Gly Ile Ser				
	915	920		925
Val Met Leu Asp Leu Pro Glu Gly Glu Ile Phe Ala Ser Val Asp Arg				
	930	935		940
Glu Lys Val Cys Lys Ile Ile Val Asn Leu Ile Gly Asn Ala Val Lys				
945	950	955		960
Tyr Ala Gln Ser Arg Ile Asp Ile Lys Leu Val Ser Ser Asp Glu Gly				
	965	970		975
Phe Arg Val Ser Val Ser Asp Asp Gly Pro Gly Ile Pro Asp Val Glu				
	980	985		990
Lys Arg Lys Val Phe Glu Ala Phe Tyr Gln Val Lys Asp Gly Lys Ser				
	995	1000		1005

Gly Ala Val Gly Thr Gly Ile Gly Leu Ala Phe Ser Lys Ser Leu Ala  
 1010 1015 1020  
 Glu Ala His His Gly Thr Leu Ser Leu Glu Asp Ser Val Tyr Gly Gly  
 1025 1030 1035 1040  
 Ser Leu Phe Cys Ser His Phe Ala Leu Gly  
 1045 1050

<210> 10378  
 <211> 301  
 <212> PRT  
 <213> B.fragilis

<400> 10378  
 Ala Leu Lys Ile Val Tyr Met Val Asp Arg Ser Phe Val Leu Thr Leu  
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 Pro Trp Gly Glu Glu Ala Val Ser Glu Glu Pro Glu Val Val Ile Pro  
 20 25 30  
 Asp Gly Arg Glu Ala Ala Asp Glu Glu Gln Gly Thr Glu Leu Ser Gly  
 35 40 45  
 Ser Lys Phe Thr Ile Leu Leu Val Glu Asp Asn Val Asp Leu Leu Asn  
 50 55 60  
 Leu Thr Arg Glu Ser Leu Ser Thr Trp Phe Lys Val Leu Lys Ala Gln  
 65 70 75 80  
 Asn Gly Arg Gln Ala Leu Glu Val Leu Ala Asn Glu Thr Val Asp Val  
 85 90 95  
 Ile Val Ser Asp Val Met Met Pro Glu Met Asn Gly Leu Glu Leu Thr  
 100 105 110  
 Ala Lys Val Lys Ser Asp Ile Glu Tyr Ser His Ile Pro Val Ile Leu  
 115 120 125  
 Leu Thr Ala Lys Thr Thr Leu Glu Ala Lys Val Glu Gly Phe Glu Cys  
 130 135 140  
 Gly Ala Asp Val Tyr Ile Glu Lys Pro Phe Ser Ile Arg Gln Leu Arg  
 145 150 155 160  
 Lys Gln Ile Glu Asn Leu Leu Lys Leu Arg Gln Ala Phe His Lys Met  
 165 170 175  
 Met Ser Glu Leu Ser Gly Gly Asn Gly Ala Ala Pro Ile Ser Pro Val  
 180 185 190  
 Glu Tyr Ser Val Ser Gln Lys Asp Cys Glu Leu Met Ala Lys Val Arg  
 195 200 205  
 Ala Ala Val Glu Ala Gln Leu Ser Asp Glu Asn Phe Ser Val Asp Thr  
 210 215 220  
 Leu Ala Glu Ser Leu Asn Met Ser Arg Ser Asn Phe Tyr Arg Lys Ile  
 225 230 235 240  
 Lys Ala Leu Ala Gly Met Pro Pro Asn Asp Tyr Leu Lys Thr Ile Arg  
 245 250 255  
 Leu Asn Lys Ala Ala Glu Leu Leu Lys Ser Gly Val Arg Ile Thr Glu  
 260 265 270  
 Val Cys Glu Lys Ile Gly Phe Ser Ser Ser Ser Tyr Phe Ala Lys Cys  
 275 280 285  
 Phe Lys Ile Gln Phe Gly Val Leu Pro Lys Asp Tyr His  
 290 295 300

<210> 10379  
 <211> 649  
 <212> PRT  
 <213> B.fragilis

<400> 10379  
 Arg Asn Pro Val Lys Thr Leu Thr Leu Gln Cys Leu Phe Ser Thr Ala

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Gln Lys Arg Phe Thr Ala Asp Val Glu Gln Gln Ala Glu Lys Ile Leu			
20	25	30	
Ser Gln Met Thr Leu Asp Glu Lys Leu Ser Tyr Ile Gly Gly Ile Asn			
35	40	45	
Trp Met Tyr Thr Arg Pro Leu Glu Arg Phe Gly Ile Pro Arg Leu Lys			
50	55	60	
Met Ser Asp Gly Pro Gln Gly Leu Gly Thr His Gly Pro Ser Thr Ala			
65	70	75	80
Tyr Pro Cys Ala Leu Met Leu Ala Ala Thr Trp Asn Glu Gln Leu Ala			
85	90	95	
Thr Glu Tyr Gly Ser Ala Leu Gly Lys Asp Cys Arg Ala Arg Gly Val			
100	105	110	
His Val Val Leu Gly Pro Ala Val Asn Ile Tyr Arg Ala Pro Met Cys			
115	120	125	
Gly Arg Asn Phe Glu Tyr Met Gly Glu Asp Pro Tyr Leu Thr Ser Arg			
130	135	140	
Met Ala Thr Gly Tyr Ile Lys Gly Val Gln Gly Gln Gly Val Met Ala			
145	150	155	160
Thr Ile Lys His Phe Ile Ala Asn Asn Ser Asp Tyr Asp Arg Asp His			
165	170	175	
Ile Ser Ser Asp Ile Asp Glu Arg Thr Leu Asn Glu Ile Tyr Phe Pro			
180	185	190	
Ser Phe Arg Ala Ala Val Gln Glu Ala Glu Val Gly Ala Val Met Ser			
195	200	205	
Ser Tyr Asn Leu Leu Asn Gly Ile Tyr Thr Thr Glu His Pro Trp Leu			
210	215	220	
Leu Lys Asp Val Leu Arg Gln Gln Trp Gly Phe Lys Gly Ile Leu Met			
225	230	235	240
Ser Asp Trp Gly Ser Thr His His Cys Ile Pro Ala Val Lys Gly Gly			
245	250	255	
Leu Asp Leu Glu Met Pro Ala Gly Ser Lys Met Gln Pro Glu Glu Leu			
260	265	270	
Lys Tyr Tyr Leu Arg Thr Gly Asp Ile Thr Ile Glu Met Ile Asp Glu			
275	280	285	
Lys Val Arg His Ile Leu Gln Thr Leu Leu Ala Phe Gly Phe Arg Glu			
290	295	300	
Thr Gln Gln Pro Asp Thr His Ile Pro Leu Asn Asn Pro Gln Cys Ala			
305	310	315	320
Gln Thr Ala Leu Asn Val Ala Ser Glu Gly Leu Val Leu Leu Lys Asn			
325	330	335	
Thr Asn Gln Ile Leu Pro Ile Arg Ser Gly Lys Val Lys Thr Ile Ala			
340	345	350	
Val Val Gly Lys Asn Ala Gln Gly Tyr Val Cys Gly Gly Gly Ser Gly			
355	360	365	
Glu Val His Pro Phe Gln Tyr Val Ser Val Leu Asp Gly Ile Arg Lys			
370	375	380	
Glu Ala Ala Glu Arg Gly Ile Arg Val Glu Tyr Leu Asp Val Tyr Asn			
385	390	395	400
Tyr Leu Pro Thr Ile Ile Phe Thr Asp Thr Glu Arg Lys Gln Lys Gly			
405	410	415	
Phe Arg Ala Gln Tyr Phe Asp Asn Met Asn Leu Glu Gly Thr Pro Lys			
420	425	430	
Val Glu Gln Thr Glu Thr Lys Ile Asn Tyr Ser Trp Ser Gly Gly Thr			
435	440	445	
Gly Leu Lys Glu Met Pro Lys Glu Gln Phe Ser Val Arg Trp Asn Gly			
450	455	460	
Thr Ile Cys Pro Gln Glu Thr Asp Glu Tyr Leu Phe Thr Leu Gly Gly			
465	470	475	480

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Asp Asp Gly Tyr Arg Leu Tyr Ile Asp Gly Lys Leu Ile Ala Asp Glu  
 485 490 495  
 Trp His Glu Gly Ala Phe Arg Asn Ser Thr Tyr Arg Cys Met Leu Glu  
 500 505 510  
 Ala Gly Lys Lys Tyr Asp Leu Lys Ile Glu Tyr Phe Gln Lys Gly Gly  
 515 520 525  
 Gly Ala Ala Val Asn Phe Ile Trp Lys Gln Lys Asn Ala Ser Asn Asn  
 530 535 540  
 Leu Phe Val Glu Ala Leu Asn Arg Asn Asp Leu Val Val Ala Cys Ile  
 545 550 555 560  
 Gly Phe Asn Ser Asp Thr Glu Gly Glu Gly Arg Asp Arg Thr Phe Glu  
 565 570 575  
 Leu Pro Glu Asp Glu Ala Gln Leu Leu Gln Asn Thr Leu Gln Ser Lys  
 580 585 590  
 Arg Pro Val Val Gly Ile Val Asn Ala Gly Gly Asn Val Glu Met Gln  
 595 600 605  
 Ser Trp Glu Pro Ser Leu Lys Gly Leu Leu Trp Ala Trp Tyr Gly Gly  
 610 615 620  
 Gln Glu Ala Arg Asn Gly Asn Arg Thr Tyr Thr Leu Arg Gly Ala Gln  
 625 630 635 640  
 Ser Phe Gly Glu Ile Thr Cys His Phe  
 645

<210> 10380  
 <211> 216  
 <212> PRT  
 <213> B.fragilis

<400> 10380  
 Phe Cys Pro Ser Glu Leu Asp Ile Arg Lys Ile Tyr Tyr Leu Cys Pro  
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 Leu Lys Met Arg Val Arg Phe Pro Val Leu Asn Pro Phe Val Met Lys  
 20 25 30  
 Val Lys Arg Phe Val Leu Cys Leu Phe Met Leu Thr Leu Ile Gly Gly  
 35 40 45  
 Ile Cys Phe Ile Ser Cys Gly Asn Thr Ser Lys Ala Lys Ala Glu Ser  
 50 55 60  
 Asp Val Ala Ala Glu Thr Ala Glu Glu Thr Phe Gln Ser Phe Leu Lys  
 65 70 75 80  
 Lys Phe Thr Ser Ser Ala Ser Phe Gln Tyr Thr Arg Val Lys Phe Pro  
 85 90 95  
 Leu Lys Thr Pro Ile Thr Leu Met Thr Asp Asp Gly Asn Ser Glu Lys  
 100 105 110  
 Thr Phe Pro Phe Thr Gln Glu Lys Trp Pro Leu Leu Asp Ala Glu Thr  
 115 120 125  
 Leu Lys Glu Glu Arg Ile Thr Gln Glu Glu Gly Gly Ile Tyr Val Ser  
 130 135 140  
 Lys Phe Thr Val Asn Glu Pro Thr His Lys Glu Phe Glu Ala Gly Tyr  
 145 150 155 160  
 Glu Glu Ser Glu Val Asp Leu Arg Val Ile Phe Asp Leu Ile Asp Gly  
 165 170 175  
 Lys Trp Tyr Val Thr Asp Cys Tyr Thr Gly Trp Tyr Gly Tyr Asp Leu  
 180 185 190  
 Pro Ile Asp Asp Leu Asn Glu Thr Val Lys Gln Val Lys Glu Glu Asn  
 195 200 205  
 Asp Thr Phe Lys Glu Leu His Pro  
 210 215

<210> 10381



<211> 183  
 <212> PRT  
 <213> B.fragilis

<400> 10381

Ala	Ile	Thr	Ser	Ile	Thr	Leu	Met	Glu	Lys	Ile	Gly	Ile	Phe	Cys	Ser
1				5					10					15	
Ala	Ser	Gly	Ser	Ile	Asp	Pro	Ile	Tyr	Phe	Asp	Ala	Ala	His	Gln	Ile
			20					25					30		
Gly	Glu	Trp	Met	Gly	Lys	Asn	Gly	Lys	Thr	Leu	Ile	Tyr	Gly	Gly	Ala
		35					40					45			
Asn	Leu	Gly	Leu	Met	Glu	Cys	Val	Ala	Lys	Ala	Val	Lys	Glu	Asn	Gly
	50					55					60				
Gly	His	Val	Ile	Gly	Val	Val	Pro	Ser	Lys	Leu	Glu	Glu	Asn	Gly	Lys
65					70					75				80	
Val	Ser	Thr	Tyr	Pro	Asp	Glu	Ile	Ile	Ala	Thr	His	Asp	Leu	Ser	Asp
				85					90					95	
Arg	Lys	Asp	Ile	Ile	Leu	Gln	Gln	Ser	Asp	Val	Leu	Val	Ala	Leu	Pro
			100					105					110		
Gly	Gly	Ile	Gly	Thr	Leu	Asp	Glu	Val	Phe	His	Val	Met	Ala	Ala	Ala
		115					120					125			
Ser	Ile	Gly	Tyr	His	Gln	Lys	Lys	Val	Ile	Phe	Tyr	Asn	Ala	Asp	Gly
	130					135					140				
Phe	Tyr	Asn	Pro	Leu	Leu	Ala	Val	Leu	Ser	Glu	Leu	Gln	Thr	Arg	Gly
145					150					155				160	
Phe	Thr	Arg	His	Pro	Leu	Ser	Ser	Tyr	Tyr	Glu	Val	Ala	Asn	Thr	Phe
				165				170						175	
Asn	Glu	Leu	Thr	Ile	Lys	Ile									
			180												

<210> 10382  
 <211> 194  
 <212> PRT  
 <213> B.fragilis

<400> 10382

Arg	Leu	Leu	Ser	Ser	Gly	Leu	Phe	Ser	Leu	Ser	Leu	Leu	Glu	Asn	Ile
1				5					10					15	
Glu	Phe	Met	Met	Thr	Leu	Ile	Arg	Ile	Thr	Ser	Ala	Asp	Asp	Ser	Arg
			20					25					30		
Leu	Asn	Arg	Leu	Ile	Pro	Leu	Tyr	Glu	Glu	Ser	Phe	Pro	Glu	Ser	Glu
		35					40					45			
Arg	Arg	Lys	Ile	Gly	Gln	Leu	Lys	Arg	Met	Ile	Glu	Asn	His	Ala	Pro
	50					55					60				
Met	Tyr	Phe	Asn	Ala	Ile	Glu	Cys	Asp	Gly	Glu	Leu	Ser	Gly	Met	Phe
65					70					75				80	
Val	Tyr	Trp	Asp	Met	Gly	Asp	Phe	Tyr	Tyr	Leu	Glu	His	Leu	Ala	Val
				85				90						95	
Phe	Pro	Glu	Met	Arg	Asn	Lys	Lys	Ile	Gly	Gln	Gln	Val	Leu	Asp	Tyr
			100					105					110		
Val	Ala	Glu	His	Leu	Lys	Gly	Val	Arg	Leu	Leu	Glu	Val	Glu	Pro	Thr
		115					120						125		
Glu	Asp	Glu	Met	Thr	Thr	Arg	Val	Asn	Tyr	Tyr	Arg	Arg	Asn	Gly	
	130					135					140				
Tyr	Glu	Val	Leu	Asp	Lys	Thr	Tyr	Val	Gln	Pro	Ser	Tyr	His	Ala	Leu
145					150					155				160	
Glu	Asp	Ala	Cys	Pro	Leu	Trp	Ile	Met	Gly	Ser	Glu	Asp	Ser	Pro	Arg
				165				170						175	
Leu	Ala	Glu	Gln	Val	Glu	Arg	Ile	Lys	Glu	Glu	Val	Tyr	Arg	Gln	Gln

Val Gly 180

185

190

<210> 10383  
<211> 235  
<212> PRT  
<213> B.fragilis

<400> 10383

Phe	Val	Ser	Pro	Asp	Asn	Lys	Leu	Tyr	Asn	Asn	Asn	Gln	Val	Ile	Thr
1			5					10						15	
Asn	His	Gln	Leu	Pro	Met	Lys	Val	Ala	Tyr	Leu	Ser	Ser	Ala	Tyr	Leu
		20						25					30		
Ala	Pro	Val	Glu	Tyr	Tyr	Ser	Lys	Leu	Leu	Asn	Tyr	Asp	Lys	Ile	Phe
		35					40					45			
Ile	Glu	Gln	His	Asp	His	Tyr	Met	Lys	Gln	Thr	Tyr	Arg	Asn	Arg	Cys
	50					55					60				
Thr	Ile	Ala	Gly	Pro	Glu	Gly	Glu	Leu	Ala	Leu	Ser	Ile	Pro	Thr	Val
65					70					75				80	
Lys	Pro	Glu	Glu	Pro	Lys	Cys	Pro	Met	Lys	Asp	Ile	Arg	Ile	Ser	Asp
				85					90					95	
His	Gly	Asn	Trp	Arg	His	Leu	His	Trp	Asn	Ala	Ile	Glu	Ser	Ala	Tyr
		100						105					110		
Asn	Ser	Thr	Pro	Phe	Phe	Glu	Tyr	Tyr	Lys	Asp	Asp	Phe	Arg	Pro	Phe
		115					120					125			
Tyr	Glu	Lys	Lys	Tyr	Glu	Phe	Leu	Thr	Asp	Phe	Asn	Glu	Glu	Leu	Cys
	130					135					140				
Arg	Leu	Val	Cys	Glu	Leu	Ile	Asp	Ile	Gln	Pro	Ala	Ile	Glu	Arg	Thr
145					150					155				160	
Lys	Glu	Tyr	Lys	Thr	Asp	Phe	Ala	Pro	Asn	Glu	Ile	Asp	Phe	Arg	Glu
				165					170					175	
Ala	Ile	His	Pro	Lys	Lys	Asp	Phe	His	Arg	Thr	Asp	Pro	Glu	Phe	Ile
			180						185				190		
Pro	Gln	Pro	Tyr	Tyr	Gln	Val	Phe	Glu	Ala	Arg	His	Gly	Phe	Leu	Pro
		195				200						205			
Asn	Leu	Ser	Ile	Ile	Asp	Leu	Leu	Phe	Asn	Met	Gly	Pro	Glu	Ser	Leu
	210					215					220				
Leu	Ile	Leu	Gln	Lys	Thr	Cys	Ala	Asp	Ser	Gln					
225					230					235					

<210> 10384  
<211> 413  
<212> PRT  
<213> B.fragilis

<400> 10384

Leu	Ile	Lys	Pro	Thr	Ser	Asn	Lys	Asn	Arg	Leu	Met	Asn	Gln	Pro	Asp
1				5					10					15	
Ile	Met	Thr	Leu	Pro	Lys	Asp	Lys	Leu	Phe	Leu	Ser	Glu	Gln	Thr	Trp
			20					25					30		
Arg	Trp	Tyr	Gly	Pro	Asp	Asp	Pro	Val	Ser	Leu	Trp	Asp	Ile	Lys	Gln
		35					40					45			
Ala	Gly	Ala	Thr	Gly	Ile	Val	Asn	Ala	Leu	His	His	Ile	Pro	Asn	Gly
	50					55					60				
Glu	Val	Trp	Thr	Val	Glu	Glu	Ile	Met	Lys	Arg	Lys	Glu	Leu	Ile	Glu
65					70					75				80	
Ser	Val	Gly	Leu	Lys	Trp	Ser	Val	Val	Glu	Ser	Val	Pro	Val	His	Glu
				85					90					95	

His Ile Lys Thr Gln Thr Gly Asn Phe Arg Lys Tyr Ile Glu Asn Tyr  
 100 105 110  
 Lys Glu Ser Leu Arg Asn Leu Gly Gln Cys Gly Ile His Ile Val Thr  
 115 120 125  
 Tyr Asn Phe Met Pro Val Leu Asp Trp Thr Arg Thr Asp Leu Ala Tyr  
 130 135 140  
 Thr Leu Pro Asp Gly Ser Lys Ala Leu Arg Phe Glu Arg Ala Ala Phe  
 145 150 155 160  
 Ile Ala Phe Asp Leu Phe Leu Leu Lys Arg Pro Gly Ala Glu Thr Glu  
 165 170 175  
 Tyr Thr Asp Glu Lys Thr Lys Ala Arg Ile Arg Phe Glu Gln Thr  
 180 185 190  
 Asp Glu Lys Glu Lys Gln Leu Leu Val Arg Asn Met Ile Ala Gly Leu  
 195 200 205  
 Pro Gly Ser Glu Glu Ser Phe Thr Leu Glu Gln Phe Gln His Glu Leu  
 210 215 220  
 Asp Arg Tyr Arg Gly Ile Asp Ala Glu Lys Leu Arg Thr His Leu Ile  
 225 230 235 240  
 Tyr Phe Leu Lys Glu Ile Thr Ser Thr Ala Asp Glu Ala Gly Val Lys  
 245 250 255  
 Leu Val Ile His Pro Asp Asp Pro Pro Cys Ser Ile Leu Gly Leu Pro  
 260 265 270  
 Arg Ile Met Ser Cys Ala Glu Asp Phe Gln Ala Leu Ile Asp Ala Val  
 275 280 285  
 Pro Asn Glu Ser Asn Gly Leu Cys Leu Cys Thr Gly Ser Leu Gly Val  
 290 295 300  
 Ser Cys Thr Asn Asp Leu Glu Gly Met Met Arg Arg Phe Gly Asp Arg  
 305 310 315 320  
 Ile Asn Phe Val His Phe Arg Ser Thr Gln Arg Asp Ala Glu Gly Asn  
 325 330 335  
 Phe Tyr Glu Ala Asn His Leu Glu Gly Asp Val Asp Met Tyr His Val  
 340 345 350  
 Met Lys Ala Phe Leu Glu Leu Gln Gln Arg Arg Lys Val Ser Ile Pro  
 355 360 365  
 Met Arg Pro Asp His Gly His Gln Met Val Asp Asp Leu Lys Lys Lys  
 370 375 380  
 Thr Asn Pro Gly Tyr Ser Cys Ile Gly Arg Leu Arg Gly Leu Ala Glu  
 385 390 395 400  
 Leu Arg Gly Leu Glu Met Gly Ile Ala Lys Ser Ile Phe  
 405 410

&lt;210&gt; 10385

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10385

Asn Thr Ala Thr Ala Leu Tyr Gln Cys Pro Leu Ser His Met Thr Ile  
 1 5 10 15  
 Leu Met Glu Gly Asn Ile Ala Thr Gln Asp Asp Thr Ile Ile Gln Gly  
 20 25 30  
 Thr Phe Ser Gly Asp Gly Gly Ala Asp Thr Gly Tyr Thr Ile Ile Ser  
 35 40 45  
 Asp Leu Tyr Ile Val Thr Asn Val Asp Phe Ile His Gln Glu Ile Ala  
 50 55 60  
 Ile Ala Tyr Phe Gly Ser Ile Pro Thr Glu Ser Ser Pro Thr Asp Asn  
 65 70 75 80  
 Tyr Val Phe Ala Asp Met Val Val Ile Pro Asp Asn Gln  
 85 90

<210> 10386  
 <211> 131  
 <212> PRT  
 <213> B.fragilis

<400> 10386

Ser Ile His Leu Pro Pro Ile Met Thr Ala Tyr Ile Lys Leu Leu Met  
 1 5 10 15  
 Leu Cys Leu Leu Phe Leu Val Phe Gly Thr Gln Lys Ser Ser Ala Leu  
 20 25 30  
 Gln Pro Val Asn Asn Gly Val Ala Val Thr Thr Ala Val Lys Ser His  
 35 40 45  
 Thr His Asn Val Pro Ser Phe Asp Asn Ser Gly His Asp Leu Phe Asp  
 50 55 60  
 Phe Asn Gln Gly Ile Leu Leu Lys Lys Ser Val Ser Asp Ser Ala Asn  
 65 70 75 80  
 Pro Tyr Lys Gln Ser Asn Asn Phe His Pro Ala Ile Lys Thr Asp Ala  
 85 90 95  
 Gln Arg Pro Ile Thr Phe Lys Glu Asp Thr Ser Thr Tyr Thr Leu Arg  
 100 105 110  
 Asn Arg Val Lys Pro Ala Gln Lys Tyr Asp Val Phe Ala Leu Arg His  
 115 120 125  
 Ile Leu Ile  
 130

<210> 10387  
 <211> 254  
 <212> PRT  
 <213> B.fragilis

<400> 10387

Tyr Phe Gly Tyr Lys Val Tyr Lys Val Ser Lys Thr Met Lys Ile Ala  
 1 5 10 15  
 Leu Ile Gly Tyr Gly Lys Met Gly Lys Glu Ile Glu Lys Val Ala Leu  
 20 25 30  
 Ser Arg Gly His Glu Ile Val Ser Ile Ile Asp Ile Asn Asn Gln Asp  
 35 40 45  
 Asp Phe Glu Ser Glu Ala Phe Lys Ser Ala Asp Val Ala Ile Glu Phe  
 50 55 60  
 Thr Asn Pro Met Val Ala Tyr Ser Asn Tyr Met Lys Ala Phe Lys Ala  
 65 70 75 80  
 Gly Val Lys Leu Val Ser Gly Ser Thr Gly Trp Met Ala Glu His Gly  
 85 90 95  
 Asp Glu Val Lys Glu Leu Cys Asn Lys Gly Gly Lys Thr Leu Phe Trp  
 100 105 110  
 Ser Ser Asn Phe Ser Leu Gly Val Thr Ile Phe Ser Ala Val Asn Lys  
 115 120 125  
 Tyr Leu Ala Lys Ile Met Asn Gln Phe Pro Ala Tyr Asp Val Thr Met  
 130 135 140  
 Ser Glu Thr His His Val His Lys Leu Asp Ala Pro Ser Gly Thr Ala  
 145 150 155 160  
 Ile Thr Leu Ala Glu Gly Ile Leu Glu Asn Met Glu Arg Lys Ser Val  
 165 170 175  
 Trp Val Lys Glu Glu Ala His Ala Thr Asn Glu Leu Pro Ile His Ser  
 180 185 190  
 Ile Arg Glu Gly Glu Val Phe Gly Ile His Thr Ile Arg Tyr Asp Ser  
 195 200 205  
 Glu Ala Asp Ser Ile Ser Ile Thr His Asp Ala Lys Asn Arg Gly Gly

6176 6176 6176

210 215 220  
 Phe Ala Leu Gly Ala Val Leu Ala Ala Glu Tyr Thr Ala Ala His Glu  
 225 230 235 240  
 Gly Tyr Leu Gly Met Ser Asp Leu Phe Pro Phe Leu Lys Asp  
 245 250

<210> 10388  
 <211> 324  
 <212> PRT  
 <213> B.fragilis

<400> 10388  
 Arg Ile Leu Gln Thr Pro Ser Arg Trp Leu Leu Gly Arg Lys Ile Lys  
 1 5 10 15  
 Lys Thr Met Arg Lys Val Ile Gly Ile Gly Glu Thr Ile Leu Asp Ile  
 20 25 30  
 Ile Phe Arg Asn Asp Gln Pro Ser Ala Ala Val Pro Gly Gly Ser Val  
 35 40 45  
 Phe Asn Gly Ile Val Ser Leu Gly Arg Met Gly Val Asn Val Cys Phe  
 50 55 60  
 Ile Ser Glu Thr Gly Asn Asp His Val Gly Asn Ile Ile Leu Gln Phe  
 65 70 75 80  
 Met Arg Asp Asn His Ile Pro Thr Asp His Val Asn Val Phe Pro Asp  
 85 90 95  
 Gly Lys Ser Pro Val Ser Leu Ala Phe Leu Asn Glu His Ser Asp Ala  
 100 105 110  
 Glu Tyr Ile Phe Tyr Lys Asp Tyr Pro Lys Gln Arg Leu Asp Val Leu  
 115 120 125  
 Phe Pro Ser Ile Asn Glu Asp Asp Ile Ile Val Ile Gly Ser Tyr Tyr  
 130 135 140  
 Ala Leu Asn Pro Val Leu Arg Asp Lys Ile Leu Glu Leu Leu Asp Ile  
 145 150 155 160  
 Ala Lys Glu Lys Arg Ala Ile Val Tyr Tyr Asp Pro Asn Phe Arg Ser  
 165 170 175  
 Ser His Lys Asn Glu Ala Met Lys Leu Ala Pro Thr Ile Ile Glu Asn  
 180 185 190  
 Leu Glu Tyr Ala Asp Ile Val Arg Gly Ser Leu Glu Asp Phe Tyr Tyr  
 195 200 205  
 Met Tyr Gly Ile Lys Asp Val Glu Lys Ile Tyr Lys Asp Lys Ile Lys  
 210 215 220  
 Phe Tyr Cys Pro Leu Phe Leu Cys Thr Ala Gly Ala Glu Arg Ile Ser  
 225 230 235 240  
 Leu Arg Thr Asn Ala Ile Ser Lys Glu Tyr Pro Val Ala Pro Leu Glu  
 245 250 255  
 Ala Val Ser Thr Ile Gly Ala Gly Asp Asn Phe Asn Ala Gly Leu Ile  
 260 265 270  
 Tyr Gly Met Leu Lys Tyr Asp Val Arg Tyr Arg Asp Leu Gln His Leu  
 275 280 285  
 Ser Glu Glu Thr Trp Asp Lys Val Ile Gln Cys Gly Gln Asp Phe Ala  
 290 295 300  
 Ala Glu Val Cys Lys Ser Phe Asn Asn Ser Ile Ser Gly Glu Phe Ala  
 305 310 315 320  
 Ala Asn Tyr Arg

<210> 10389  
 <211> 61  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 10389

Phe	Ile	Ser	Leu	Phe	Leu	Phe	Glu	Val	Gly	Leu	Ile	Ser	Gln	Cys	Val
1				5					10					15	
Cys	Ser	Val	Ser	Ser	Leu	Phe	Arg	Tyr	Val	Trp	Asp	Gln	Lys	Leu	Asp
			20					25					30		
Phe	Leu	Tyr	Ile	Ala	Lys	Ala	Leu	Asn	Pro	Pro	Ser	Thr	Thr	Ala	Thr
		35					40					45			
Val	Pro	Val	Thr	Lys	Leu	Ala	Ala	Ser	Leu	Met	Arg	Tyr			
	50					55					60				

&lt;210&gt; 10390

&lt;211&gt; 411

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10390

Gln	Ile	Thr	Gln	Lys	Met	Lys	Lys	His	Leu	Ile	Leu	Ser	Ala	Cys	Leu
1				5					10					15	
Ile	Met	Ala	Ile	Ser	Ser	Phe	Ala	Gln	Lys	Lys	Asp	Phe	Ser	Tyr	Lys
			20					25					30		
Phe	Tyr	Gly	Gln	Ile	Arg	Thr	Asp	Leu	Tyr	Tyr	Asn	Ser	Arg	Ala	Asn
		35					40				45				
Glu	Glu	Thr	Val	Asp	Gly	Leu	Phe	Tyr	Met	Tyr	Pro	Lys	Asp	Glu	Val
	50					55					60				
Phe	Asp	Ser	Asn	Gly	Arg	Asp	Leu	Asn	Ala	Thr	Ala	Asn	Gly	Ser	Phe
65					70					75					80
Tyr	Thr	Leu	Tyr	Thr	Arg	Leu	Gly	Leu	Asp	Val	Lys	Gly	Pro	Lys	Leu
				85					90					95	
Gly	Arg	Ala	Met	Thr	Ser	Ala	Lys	Val	Glu	Ala	Asp	Phe	Arg	Gly	Ser
			100					105					110		
Gly	Thr	Ser	Tyr	Ser	Thr	Ile	Arg	Leu	Arg	His	Ala	Tyr	Leu	Asn	Leu
			115				120						125		
Asp	Trp	Gly	Arg	Ser	Ala	Leu	Leu	Leu	Gly	Gln	Thr	Trp	His	Pro	Leu
	130					135					140				
Phe	Gly	Asp	Val	Ser	Pro	Gln	Ile	Leu	Asn	Leu	Ser	Val	Gly	Ala	Pro
145					150					155					160
Phe	Gln	Pro	Phe	Ser	Arg	Ala	Pro	Gln	Ile	Arg	Tyr	Arg	Tyr	Thr	His
				165					170					175	
Lys	Gly	Phe	Gln	Leu	Thr	Gly	Ala	Ala	Ile	Trp	Gln	Ser	Gln	Tyr	Leu
			180					185					190		
Ser	Gln	Gly	Ile	Val	Gly	Lys	Ser	Gln	Thr	Tyr	Ile	Lys	Asn	Ser	Cys
		195					200					205			
Val	Pro	Glu	Phe	Tyr	Leu	Gly	Leu	Asp	Tyr	Lys	Ala	Asn	Gly	Trp	Ile
	210					215					220				
Ala	Gly	Ala	Gly	Ile	Glu	Leu	Leu	Ser	Leu	Lys	Pro	Arg	Thr	Glu	Ser
225					230					235					240
Lys	Val	Glu	Asp	Gln	Val	Tyr	Lys	Val	Asn	Glu	Arg	Ile	Thr	Thr	Leu
				245					250					255	
Ser	Tyr	Glu	Gly	His	Val	Lys	Tyr	Ser	Asn	Lys	Asp	Trp	Phe	Val	Gly
			260				265						270		
Ala	Lys	Thr	Val	Leu	Gly	Ser	Asn	Leu	Thr	Gln	Thr	Ser	Met	Leu	Gly
		275					280					285			
Gly	Phe	Gly	Ile	Lys	Ser	Ile	Asp	Asn	Arg	Thr	Gly	Glu	Gln	Lys	Tyr
	290					295					300				
Thr	Pro	Ile	Arg	Val	Ser	Ser	Ser	Trp	Leu	Asn	Val	Val	Tyr	Gly	Gln
305					310					315					320
Lys	Trp	Lys	Pro	Gly	Ile	Phe	Leu	Gly	Tyr	Val	Lys	Asn	Met	Gly	Thr
				325					330					335	

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Ser	Asp	Ala	Leu	Ala	Ser	Asn	Gln	Val	Tyr	Gly	Thr	Gly	Thr	Asn	Val
			340					345						350	
Asp	Gln	Val	Val	Thr	Ala	Gly	Ala	Glu	Leu	Thr	Tyr	Asn	Val	Asn	His
		355					360					365			
Trp	Lys	Phe	Gly	Val	Glu	Tyr	Thr	Tyr	Thr	Ser	Ala	Ala	Tyr	Gly	Ser
	370					375					380				
Leu	Tyr	Leu	Lys	Asn	Gly	Lys	Ile	Ile	Asp	Thr	His	Tyr	Val	Gly	Asn
385					390					395					400
Asn	Arg	Ile	Val	Gly	Val	Ala	Met	Phe	Met	Phe					
			405						410						

&lt;210&gt; 10391

&lt;211&gt; 528

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10391

Leu	Lys	Lys	Gln	Asn	Met	Lys	Leu	Asp	Arg	Phe	Ile	Asn	Arg	Pro	Val
1				5					10					15	
Leu	Ser	Thr	Val	Ile	Ser	Ile	Val	Ile	Val	Ile	Leu	Gly	Val	Leu	Gly
			20					25					30		
Leu	Leu	Ser	Leu	Pro	Ile	Ser	Gln	Tyr	Pro	Asp	Ile	Ala	Pro	Pro	Thr
		35					40					45			
Val	Arg	Val	Asn	Thr	Thr	Tyr	Gln	Gly	Ala	Asn	Ala	Gln	Thr	Val	Leu
	50					55				60					
Asn	Ser	Val	Ile	Ala	Pro	Leu	Glu	Glu	Gln	Ile	Asn	Gly	Val	Glu	Asn
65					70					75					80
Met	Met	Tyr	Met	Thr	Ser	Thr	Ala	Thr	Asn	Thr	Gly	Glu	Ala	Ser	Ile
				85					90					95	
Glu	Val	Tyr	Phe	Lys	Gln	Gly	Thr	Asp	Pro	Asp	Met	Ala	Ala	Val	Asn
			100					105					110		
Val	Gln	Asn	Arg	Val	Ala	Lys	Ala	Gln	Gly	Leu	Leu	Pro	Ala	Glu	Val
		115					120					125			
Thr	Lys	Val	Gly	Val	Ile	Thr	Ser	Lys	Arg	Gln	Thr	Ser	Met	Leu	Leu
	130					135					140				
Val	Phe	Ser	Leu	Tyr	Ser	Ser	Asp	Asp	Lys	Tyr	Asp	Asn	Glu	Phe	Leu
145					150					155					160
Glu	Asn	Tyr	Ala	Lys	Ile	Asn	Leu	Val	Pro	Glu	Val	Gln	Arg	Val	Pro
				165					170					175	
Gly	Val	Gly	Asp	Ala	Met	Val	Leu	Gly	Ala	Asp	Tyr	Ser	Met	Arg	Ile
			180					185					190		
Trp	Leu	Lys	Pro	Asp	Val	Met	Ala	Gln	Tyr	His	Leu	Met	Pro	Thr	Asp
		195					200					205			
Val	Ser	Ala	Ala	Leu	Ala	Glu	Gln	Asn	Ile	Glu	Ala	Ala	Pro	Gly	Ser
	210					215					220				
Phe	Gly	Glu	Gln	Gly	Lys	Gln	Thr	Phe	Gln	Tyr	Thr	Leu	Arg	Tyr	Lys
225					230					235					240
Gly	Arg	Leu	Gln	Ser	Gln	Glu	Glu	Phe	Glu	Asn	Ile	Val	Ile	Arg	Ala
				245					250					255	
Asn	Ser	Asp	Gly	Gln	Val	Leu	Arg	Leu	Lys	Asp	Ile	Ala	Thr	Ile	Glu
			260					265					270		
Leu	Gly	Arg	Leu	Thr	Tyr	Gly	Phe	Ser	Asn	Asn	Val	Asn	Gly	His	Pro
		275					280						285		
Ala	Val	Thr	Val	Ile	Val	Phe	Gln	Thr	Ala	Gly	Ser	Asn	Ala	Thr	Ala
	290					295					300				
Ile	Ile	Asn	Asp	Ile	Leu	Asp	Leu	Leu	Glu	Lys	Ser	Glu	Ser	Thr	Phe
305					310					315					320
Pro	Pro	Gly	Val	Lys	Val	Asn	Ile	Ser	Gln	Asn	Ala	Asn	Asp	Phe	Leu
				325					330					335	

Phe Ala Ser Ile His Glu Val Val Lys Thr Leu Ile Glu Ala Phe Ile  
 340 345 350  
 Leu Val Phe Ile Val Val Tyr Ile Phe Leu Gln Asp Leu Arg Ser Thr  
 355 360 365  
 Leu Ile Pro Ala Ile Ala Ile Pro Val Ala Leu Ile Gly Thr Phe Phe  
 370 375 380  
 Val Leu Tyr Ile Ile Gly Phe Ser Ile Asn Leu Leu Thr Leu Cys Ala  
 385 390 395 400  
 Met Val Leu Ala Ile Ala Ile Val Val Asp Asp Ala Ile Val Val Val  
 405 410 415  
 Glu Gly Val His Ala Lys Leu Asp Gln Gly Tyr Lys Ser Ala Arg Leu  
 420 425 430  
 Ala Ser Ile Asp Ala Met Asn Glu Leu Gly Gly Ala Ile Val Ser Ile  
 435 440 445  
 Thr Leu Val Met Met Ser Val Phe Ile Pro Val Ser Phe Met Thr Gly  
 450 455 460  
 Thr Ser Gly Thr Phe Tyr Arg Gln Phe Gly Leu Thr Met Ala Ile Ala  
 465 470 475 480  
 Ile Ala Leu Ser Ala Val Asn Ala Leu Thr Leu Ser Pro Ala Leu Cys  
 485 490 495  
 Ala Ile Leu Leu Lys Pro His Asp Pro Asp Ala Lys Lys Lys Ser Ile  
 500 505 510  
 Leu Ala Thr Val Ser Met Leu Arg Ser Met Leu Leu Met Thr Gln Tyr  
 515 520 525

&lt;210&gt; 10392

&lt;211&gt; 284

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10392

Arg Ser His Lys Thr Arg Ser Leu Thr Phe Lys Ser Asn Ser Met Ala  
 1 5 10 15  
 Asn Leu Phe Ser Val Lys Asp Lys Val Val Val Ile Thr Gly Gly Thr  
 20 25 30  
 Gly Val Leu Gly Lys Ala Ile Ala Ala His Leu Ala Glu Glu Gly Ala  
 35 40 45  
 Lys Val Ile Leu Leu Gly Arg Lys Thr Glu Val Gly Asn Lys Ile Val  
 50 55 60  
 Glu Ser Ile Arg Thr Gln Gly Gly Glu Ala Leu Phe Leu Thr Thr Asp  
 65 70 75 80  
 Val Leu Asp Arg Lys Ile Leu Glu Gln Asn Leu Ala Asp Ile Leu Lys  
 85 90 95  
 Ala Tyr Gly Arg Ile Asp Ala Leu Leu Asn Ala Ala Gly Gly Asn Met  
 100 105 110  
 Pro Gly Ala Thr Ile Ser Pro Thr Gly Asp Ile Phe Asp Leu Lys Ile  
 115 120 125  
 Asp Glu Phe Gln Lys Val Leu Asp Leu Asn Leu Thr Gly Thr Ile Leu  
 130 135 140  
 Pro Thr Gln Val Phe Leu Lys Pro Met Val Glu Gln Arg Ala Gly Ala  
 145 150 155 160  
 Ile Val Asn Phe Ser Ser Met Ala Ala Phe Arg Pro Leu Thr Arg Val  
 165 170 175  
 Ala Gly Tyr Ala Ala Lys Ala Gly Ile Ser Asn Phe Thr Ala Phe  
 180 185 190  
 Met Ala Thr Glu Ile Ala Lys Lys Phe Gly Glu Gly Ile Arg Ile Asn  
 195 200 205  
 Ala Ile Ala Pro Gly Phe Phe Leu Thr Glu Gln Asn Arg Ala Leu Leu  
 210 215 220



Thr	Asn	Pro	Asp	Gly	Thr	Tyr	Thr	Gln	Arg	Gly	Gln	Asp	Val	Ile	Arg
225					230					235					240
Gln	Thr	Pro	Phe	Gly	Arg	Met	Gly	Arg	Ala	Glu	Glu	Leu	Cys	Gly	Thr
			245						250					255	
Ile	Gln	Tyr	Leu	Ile	Ser	Asp	Ala	Ala	Ser	Phe	Val	Thr	Gly	Thr	Val
			260					265						270	
Ala	Val	Val	Asp	Gly	Gly	Phe	Asn	Ala	Phe	Ala	Met				
		275					280								

&lt;210&gt; 10393

&lt;211&gt; 394

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10393

Thr	Ser	Leu	Lys	Ile	Glu	Tyr	Lys	Glu	Gly	Met	Lys	Ser	Lys	Ile	Val
1			5						10					15	
Leu	Phe	Ala	Phe	Cys	Leu	Ala	Leu	Leu	Ser	Gly	Cys	Gly	Lys	Lys	Gly
			20					25					30		
Phe	Asn	Met	Gly	Gly	Thr	Pro	Glu	Cys	Ala	Val	Glu	Thr	Leu	Gln	Pro
		35					40					45			
Thr	Thr	Val	Asn	Leu	Lys	Ser	Ser	Tyr	Pro	Ala	Thr	Ile	Lys	Gly	Lys
	50					55					60				
Gln	Asp	Ile	Glu	Ile	Arg	Pro	Gln	Val	Ser	Gly	Phe	Ile	Thr	Lys	Leu
65					70					75					80
Asn	Ile	Asp	Glu	Gly	Ser	Met	Val	Lys	Lys	Gly	Gln	Val	Leu	Phe	Val
			85						90					95	
Ile	Asp	Pro	Val	Gln	Tyr	Glu	Ser	Ala	Ala	Arg	Ala	Ala	Lys	Ala	Ala
			100					105					110		
Val	Ala	Thr	Ala	Lys	Ala	Asn	Val	Ser	Thr	Gln	Glu	Ile	Thr	Val	Lys
		115					120					125			
Asn	Lys	Arg	Glu	Leu	Asn	Lys	Lys	Asn	Ile	Ile	Ser	Asp	Tyr	Asp	Leu
	130					135					140				
Glu	Met	Ala	Glu	Asn	Thr	Leu	Ala	Ser	Ala	Lys	Ala	Gln	Leu	Ala	Ser
145					150					155					160
Ala	Glu	Ala	Gln	Leu	Ile	Ser	Ala	Asn	Gln	Asn	Leu	Ala	Tyr	Thr	Arg
			165						170					175	
Val	Thr	Ser	Pro	Ser	Asp	Gly	Val	Ala	Gly	Thr	Ile	Pro	Tyr	Arg	Val
			180					185					190		
Gly	Ser	Leu	Val	Ser	Ala	Ser	Ser	Pro	Ser	Pro	Leu	Thr	Val	Ile	Ser
		195					200					205			
Asp	Ile	Thr	Gln	Met	Tyr	Val	Tyr	Phe	Ser	Leu	Thr	Glu	Lys	Glu	Leu
	210					215						220			
Leu	Asn	Leu	Ile	Arg	Gln	Asp	Gly	Ser	Gln	Thr	Glu	Phe	Leu	Asn	Ser
225					230					235					240
Phe	Pro	Ala	Val	Gln	Leu	Thr	Leu	Ala	Asp	Gly	Thr	Leu	Tyr	Ala	Asp
			245						250					255	
Ser	Gly	Lys	Ile	Glu	Thr	Val	Ser	Gly	Val	Ile	Asp	Gln	Asn	Thr	Gly
			260					265					270		
Ala	Val	Ser	Met	Arg	Ala	Thr	Phe	Pro	Asn	His	Gly	His	Leu	Leu	Arg
		275					280					285			
Thr	Gly	Gly	Thr	Gly	Asn	Ile	Gln	Ile	Pro	Tyr	Ser	Lys	Glu	Asn	Val
	290					295					300				
Ile	Val	Ile	Pro	Gln	Lys	Ala	Thr	Tyr	Glu	Ile	Gln	Asp	Lys	Lys	Phe
305					310					315					320
Val	Tyr	Leu	Leu	Gln	Pro	Asp	Asn	Thr	Val	Lys	Asn	Thr	Glu	Ile	Glu
			325						330					335	
Ile	Leu	Asn	Leu	Asn	Asp	Gly	Gln	Asn	Tyr	Val	Val	Thr	Ala	Gly	Leu
			340					345						350	

Lys Ala Gly Asp Lys Ile Val Val Glu Asn Val Ser Thr Leu Lys Asp  
 355 360 365  
 Gly Ala Thr Ile Lys Pro Leu Thr Gln Gln Glu Ser Ala Glu Arg Phe  
 370 375 380  
 Lys Ala Ala Leu Glu Glu Arg Lys Asn Gln  
 385 390

<210> 10394  
 <211> 312  
 <212> PRT  
 <213> B.fragilis

<400> 10394  
 Ser Met Gly Lys Gly Leu Lys Trp Ile Ile Ala Phe Ala Gly Ala Met  
 1 5 10 15  
 Val Ile Val Leu Leu Leu Arg Gly Phe Ala Phe Thr Ser Cys Leu Ile  
 20 25 30  
 Pro Ser Ala Gly Met Glu Asn Ser Leu Phe Gln Gly Glu Arg Ile Leu  
 35 40 45  
 Val Asn Lys Trp Ser Tyr Gly Leu Arg Val Pro Tyr Met Ser Leu Phe  
 50 55 60  
 Ser Tyr His Arg Trp Gly Glu Ser Pro Ile His Lys Asp Asp Ile Val  
 65 70 75 80  
 Val Phe Asn Asn Pro Ala Gly Ile Lys Glu Pro Ile Ile Asp Arg Arg  
 85 90 95  
 Glu Ile Tyr Ile Ser Arg Cys Ile Gly Val Pro Gly Asp Thr Leu Leu  
 100 105 110  
 Ile Asp Ser Leu Phe Asn Val Val Asp Arg Ser Thr Gln Leu Gly Pro  
 115 120 125  
 Asp Arg Lys Gln Leu Tyr Thr Tyr Pro Gln Thr Lys Glu Gln Gln Leu  
 130 135 140  
 Asp Ser Leu Leu Ser Ile Leu Ser Ile Gly Pro Asn Glu Leu Met Gly  
 145 150 155 160  
 Gln His Glu Gly Lys Asn Val Arg Ser Phe Ser Arg Tyr Glu Tyr Tyr  
 165 170 175  
 Leu Leu Asp Gln Ala Met Asn Gly Lys Ser Trp Ile Gln Pro Leu Gln  
 180 185 190  
 Gln Ser Leu Gln Glu Glu Ala Lys Pro Leu Ile Val Pro Gly Lys Gly  
 195 200 205  
 Lys Ala Val Arg Val Tyr Pro Trp Asn Arg Thr Leu Leu Arg Asn Thr  
 210 215 220  
 Leu Val Leu His Glu Gly Lys Gln Ala Glu Ile Arg Asn Asp Thr Leu  
 225 230 235 240  
 Tyr Ile Glu Gly Arg Pro Ser Gln His Cys Tyr Phe Thr Lys Asp Tyr  
 245 250 255  
 Tyr Trp Met Ala Ser Asn Asn Ser Val Asn Leu Ser Asp Ser Arg Leu  
 260 265 270  
 Phe Gly Phe Val Pro Gln Asp His Val Ile Gly Lys Ala Ser Arg Ile  
 275 280 285  
 Trp Phe Ser Lys Thr Asp His Thr Gly Ile Phe Ser Gly Tyr Arg Trp  
 290 295 300  
 Glu Arg Phe Phe Gln Pro Val Lys  
 305 310

<210> 10395  
 <211> 491  
 <212> PRT  
 <213> B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (338)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 10395

Asn	Leu	Leu	Asn	Gly	Lys	Thr	Ser	Ile	Ile	Arg	Met	Gln	Lys	Gln	Lys
1				5				10					15		
Leu	Asn	Asn	Thr	Leu	Asn	Arg	Asn	Lys	Glu	Lys	Asn	Met	Lys	Lys	Gln
			20					25					30		
Ile	Ile	Gly	Met	Leu	Cys	Ala	Thr	Ala	Leu	Leu	Ser	Ser	Cys	His	Ile
		35					40					45			
Tyr	Lys	Ser	Tyr	Asp	Arg	Pro	Lys	Asp	Ile	Glu	Ala	Ser	Gly	Leu	Tyr
	50					55				60					
Arg	Asp	Thr	Val	Ser	Val	Ala	Asp	Thr	Leu	Val	Ser	Asp	Thr	Val	Asn
65					70					75					80
Phe	Gly	Asn	Leu	Pro	Trp	Arg	Glu	Val	Phe	Thr	Asp	Pro	Gln	Leu	Gln
				85				90						95	
Ala	Leu	Ile	Glu	Gln	Gly	Leu	Thr	His	Asn	Thr	Asp	Leu	Leu	Thr	Ala
			100				105						110		
Ala	Leu	Lys	Val	Lys	Glu	Ala	Gln	Ala	Ser	Leu	Met	Ser	Ala	Arg	Leu
	115						120				125				
Ala	Tyr	Ala	Pro	Ser	Leu	Gly	Leu	Ser	Pro	Gln	Gly	Thr	Ile	Ser	Ser
	130					135					140				
Phe	Asp	Lys	His	Ala	Ala	Thr	Lys	Thr	Tyr	Ser	Leu	Pro	Ala	Thr	Ala
145					150					155					160
Ser	Trp	Glu	Ile	Asp	Leu	Phe	Gly	Lys	Leu	Leu	Asn	Ala	Lys	Arg	Gly
				165				170						175	
Ala	Gln	Val	Thr	Leu	Leu	Gln	Thr	Lys	Ala	Tyr	Arg	Gln	Ala	Val	Gln
			180					185					190		
Thr	Gln	Ile	Ile	Ser	Gly	Ile	Ala	Asn	Thr	Tyr	Tyr	Thr	Leu	Leu	Met
	195						200					205			
Leu	Asp	Arg	Gln	Leu	Asp	Ile	Thr	Glu	Gln	Thr	Ala	Asp	Ile	Met	Lys
	210					215					220				
Arg	Asn	Val	Glu	Thr	Met	Gln	Ala	Met	Lys	Asp	Ala	Ala	Met	Phe	Asn
225					230					235					240
Thr	Thr	Ser	Ala	Gly	Val	Glu	Gln	Ser	Lys	Ala	Ala	Tyr	Ala	Gln	Val
				245					250					255	
Leu	Ala	Ser	Ile	Pro	Ala	Ile	Gln	Lys	Ser	Ile	Arg	Glu	Ala	Glu	Asn
		260					265						270		
Ala	Met	Ser	Met	Leu	Leu	Ala	Gln	Ala	Pro	Gln	Thr	Ile	Lys	Arg	Gly
	275						280					285			
Val	Leu	Glu	Glu	Gln	Gln	Leu	Pro	Glu	Asp	Phe	Ser	Val	Gly	Val	Pro
	290					295					300				
Leu	Gln	Leu	Leu	Ser	Asn	Arg	Pro	Asp	Val	Lys	Ala	Ala	Glu	Met	Ala
305					310					315					320
Leu	Ala	Gly	Thr	Tyr	Tyr	Asn	Ala	Asn	Ser	Thr	Arg	Ala	Ala	Phe	Tyr
			325						330					335	
Pro	Xaa	Ile	Thr	Ile	Ser	Gly	Ser	Ala	Gly	Trp	Thr	Asn	Ser	Ala	Gly
			340					345					350		
Ser	Ala	Ile	Ile	Asn	Pro	Gly	Lys	Leu	Leu	Ala	Ser	Val	Leu	Gly	Ser
	355						360					365			
Leu	Thr	Gln	Pro	Leu	Phe	Tyr	Arg	Gly	Ala	Asn	Ile	Ala	Arg	Leu	Lys
	370					375					380				
Ile	Ala	Lys	Ala	Gln	Gln	Glu	Glu	Ala	Lys	Leu	Ala	Phe	Gln	Gln	Ser
385					390					395					400
Leu	Leu	Asn	Ala	Gly	Ser	Glu	Val	Ser	Asn	Ala	Leu	Tyr	Gln	Tyr	Gln
			405						410				415		
Ser	Ala	Ser	Glu	Lys	Thr	Ala	Ser	Arg	Lys	Leu	Gln	Val	Glu	Ser	Ser

[illegible]

<400> 10396

<210> 10397

<211> 564

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (473)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 10397

Lys	Glu	Ile	Asp	Phe	Gly	Asn	Arg	Phe	His	Ala	Ser	Phe	Asn	Ala	Ala	1	5	10	15
Tyr	Asp	Pro	Val	Leu	Lys	Lys	Tyr	Lys	Lys	Arg	Val	Leu	Phe	Phe	Ile	20	25	30	
Gln	Lys	Pro	Val	Leu	Thr	Ile	Gly	Ser	Val	Val	Val	Gly	Phe	Ala	Leu	35	40	45	
Leu	Ile	Phe	Leu	Met	Lys	Val	Thr	Pro	Thr	Gly	Leu	Val	Pro	Asn	Glu	50	55	60	
Asp	Thr	Gly	Thr	Ile	Met	Ala	Val	Val	Asp	Met	Pro	Pro	Gly	Ser	Ser	65	70	75	80
Leu	Glu	Arg	Thr	Gln	Glu	Val	Met	Trp	Gln	Val	Asp	Ser	Leu	Leu	Ala	85	90	95	
Ser	Asp	Pro	Ala	Ile	Glu	Ser	Arg	Thr	Met	Ile	Ala	Gly	Tyr	Ser	Phe	100	105	110	
Ile	Ala	Gly	Gln	Gly	Pro	Ser	Tyr	Gly	Ser	Phe	Ile	Cys	Lys	Met	Lys	115	120	125	
Asn	Trp	Asp	Glu	Arg	Ser	Ile	Ala	Gln	Arg	Ser	Asp	Phe	Val	Ser	Gly	130	135	140	
Met	Leu	Tyr	Leu	Lys	Ala	Arg	Glu	Val	Ile	Lys	Asp	Ala	Arg	Val	Leu	145	150	155	160
Leu	Phe	Ala	Pro	Pro	Met	Ile	Pro	Gly	Tyr	Ser	Val	Ser	Asn	Gly	Phe	165	170	175	
Glu	Met	Asn	Leu	Gln	Asp	Lys	Thr	Gly	Gly	Ser	Leu	Asp	Lys	Phe	Tyr	180	185	190	
Glu	Val	Ala	Gln	Asp	Phe	Ile	Thr	Lys	Leu	Gln	Ala	Arg	Pro	Glu	Ile	195	200	205	
Gln	Ser	Ala	Gln	Thr	Ser	Phe	Asn	Pro	Asn	Phe	Pro	Gln	Tyr	Met	Ile	210	215	220	
Asp	Ile	Asp	Ala	Ala	Ala	Cys	Lys	Lys	Ala	Gly	Leu	Ser	Pro	Ser	Asp	225	230	235	240
Ile	Leu	Thr	Thr	Leu	Gln	Gly	Tyr	Tyr	Gly	Gly	Leu	Tyr	Ser	Ser	Asn	245	250	255	
Phe	Asn	Arg	Phe	Gly	Lys	Met	Tyr	Arg	Val	Met	Ile	Gln	Ala	Asp	Pro	260	265	270	
Asn	Ser	Arg	Thr	Asn	Leu	Glu	Ser	Leu	Asn	Ser	Val	Lys	Val	Arg	Asn	275	280	285	
Gly	Asn	Glu	Met	Ala	Pro	Ile	Thr	Gln	Phe	Met	Ser	Val	Lys	Arg	Ile	290	295	300	
Tyr	Gly	Pro	Asp	Asn	Ile	Lys	Arg	Phe	Asn	Met	Phe	Thr	Ala	Met	Thr	305	310	315	320
Ile	Asn	Gly	Ser	Pro	Ala	Asp	Gly	Tyr	Ser	Ser	Gly	Gln	Ala	Ile	Gln	325	330	335	
Ala	Met	Gln	Glu	Val	Ala	Glu	Gln	Thr	Leu	Pro	Thr	Gly	Tyr	Gly	Tyr	340	345	350	
Glu	Phe	Ser	Gly	Met	Thr	Arg	Glu	Glu	Gln	Ser	Ser	Ser	Gly	Ser	Thr	355	360	365	
Thr	Ala	Met	Ile	Phe	Val	Leu	Cys	Phe	Val	Phe	Val	Tyr	Leu	Leu	Leu	370	375	380	
Ser	Ala	Gln	Tyr	Glu	Ser	Tyr	Ile	Leu	Pro	Phe	Ala	Val	Leu	Leu	Ser	385	390	395	400

Ile Pro Phe Gly Leu Ala Gly Ser Phe Ile Phe Ala His Leu Met Gly  
 405 410 415  
 Leu Ala Asn Asn Val Leu Pro Ile Leu Gly Ala Ala Thr Asn Asn Ile  
 420 425 430  
 Tyr Met Gln Ile Ala Leu Ile Met Leu Met Gly Leu Leu Ala Lys Asn  
 435 440 445  
 Ala Ile Leu Ile Val Glu Phe Ala Leu Asp Arg Arg Lys Met Gly Met  
 450 455 460  
 Ser Ile Thr Trp Ala Ala Val Leu Xaa Ala Gly Ala Arg Leu Arg Pro  
 465 470 475 480  
 Ile Leu Met Thr Ser Leu Ala Met Val Val Gly Leu Leu Pro Leu Met  
 485 490 495  
 Phe Ala Met Gly Val Gly Ala Asn Gly Asn Arg Ala Leu Gly Thr Ala  
 500 505 510  
 Ala Val Gly Gly Met Phe Ile Gly Met Ile Cys Gln Ile Phe Val Val  
 515 520 525  
 Pro Ala Leu Phe Val Ile Phe Gln Tyr Leu Gln Glu Lys Val Lys Pro  
 530 535 540  
 Ile Glu Trp Glu Asp Ile Asp Asn Thr Asp Ala Glu Thr Glu Ile Glu  
 545 550 555 560  
 Gln Tyr Ala Lys

<210> 10398  
 <211> 208  
 <212> PRT  
 <213> B.fragilis

<400> 10398  
 Arg Tyr Lys Asp Met Lys Lys Leu Ile Ile Phe Asp Leu Asp Gly Thr  
 1 5 10 15  
 Leu Leu Asn Thr Ile Ala Asp Leu Ala His Ser Thr Asn His Ala Leu  
 20 25 30  
 Gln Thr Leu Gly Tyr Pro Thr His Glu Val Ala Ser Tyr Asn Phe Met  
 35 40 45  
 Val Gly Asn Gly Ile Asn Lys Leu Phe Glu Arg Ala Leu Pro Glu Gly  
 50 55 60  
 Glu Lys Thr Glu Glu Asn Val Leu Arg Val Arg Lys Glu Phe Leu Leu  
 65 70 75 80  
 His Tyr Asp Arg His Asn Ala Asp Glu Ser Arg Pro Tyr Pro Gly Ile  
 85 90 95  
 Pro Glu Leu Leu Glu Thr Leu Gln His Lys Gly Tyr Lys Leu Ala Val  
 100 105 110  
 Ala Ser Asn Lys Tyr Gln Ala Ala Thr Glu Lys Leu Ile Ala His Tyr  
 115 120 125  
 Phe Pro Gly Ile Arg Phe Val Ala Val Phe Gly Gln Arg Glu Gly Val  
 130 135 140  
 Lys Val Lys Pro Asp Pro Ala Val Val His Asp Ile Leu Gln Ile Ala  
 145 150 155 160  
 Asp Val Ser Lys Asp Glu Val Leu Tyr Val Gly Asp Ser Gly Val Asp  
 165 170 175  
 Met Gln Thr Ala Ile Asn Ser Gly Val Thr Ser Cys Gly Val Thr Gly  
 180 185 190  
 Gly Phe Arg Pro Arg Thr Gly Leu Gly Ile Arg Leu Ala Gly Ile Leu  
 195 200 205

<210> 10399  
 <211> 171  
 <212> PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10399

Val	Lys	Val	Glu	Gln	Ile	His	Arg	Lys	Lys	Gly	Lys	Leu	Val	Thr	Ser
1			5						10					15	
Gly	Met	Gly	Lys	Ala	Gly	Gln	Ile	Ala	Met	Asn	Ile	Ala	Thr	Thr	Phe
		20						25					30		
Cys	Ser	Thr	Gly	Ile	Pro	Ser	Val	Phe	Leu	His	Pro	Ser	Glu	Ala	Gln
		35					40					45			
His	Gly	Asp	Leu	Gly	Ile	Leu	Gln	Glu	Asn	Asp	Leu	Leu	Leu	Ile	
	50					55				60					
Ser	Asn	Ser	Gly	Lys	Thr	Arg	Glu	Ile	Val	Glu	Leu	Thr	Gln	Leu	Ala
65					70					75				80	
His	Asn	Leu	Asn	Pro	Gly	Leu	Lys	Phe	Ile	Val	Ile	Thr	Gly	Asn	Pro
			85						90					95	
Asp	Ser	Pro	Leu	Ala	Ser	Glu	Ser	Asp	Val	Cys	Leu	Ser	Thr	Gly	His
		100						105					110		
Pro	Ala	Glu	Val	Cys	Thr	Leu	Gly	Met	Thr	Pro	Thr	Thr	Ser	Thr	Thr
		115					120					125			
Val	Met	Thr	Val	Ile	Gly	Asp	Ile	Leu	Val	Val	Gln	Thr	Met	Lys	Arg
	130					135					140				
Thr	Glu	Phe	Thr	Ile	Glu	Glu	Tyr	Ser	Lys	Arg	His	His	Gly	Gly	Tyr
145					150					155				160	
Leu	Gly	Glu	Lys	Ser	Arg	Lys	Leu	Cys	Val	Lys					
			165						170						

&lt;210&gt; 10400

&lt;211&gt; 1030

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10400

Leu	Leu	Thr	Glu	Cys	Leu	Ala	Met	Cys	Ser	Leu	Ala	Thr	Met	Ala	Gln
1				5					10					15	
His	Asp	Glu	Trp	Lys	Asn	Pro	Glu	Ile	Asn	Ala	Val	Asn	Arg	Ala	Pro
		20						25					30		
Met	His	Thr	Asn	Tyr	Phe	Ala	Tyr	Ser	Ser	Ser	Glu	Glu	Ala	Ala	Lys
		35					40					45			
Ala	Asp	Lys	Glu	Asn	Ser	Ser	Asn	Phe	Met	Thr	Leu	Asn	Gly	Ile	Trp
	50					55					60				
Lys	Phe	Asn	Trp	Val	Lys	Asn	Ala	Asp	Ala	Arg	Pro	Thr	Asp	Phe	Tyr
65					70					75				80	
Arg	Thr	Asp	Tyr	Asn	Asp	Lys	Gly	Trp	Gly	Gln	Met	Lys	Val	Pro	Gly
			85						90					95	
Val	Trp	Glu	Met	Asn	Gly	Tyr	Gly	Asp	Pro	Ile	Tyr	Val	Asn	Val	Gly
		100						105					110		
Tyr	Ala	Trp	Arg	Ser	Gln	Tyr	Lys	Asn	Asn	Pro	Pro	Tyr	Val	Pro	Ile
		115					120					125			
Glu	Asn	Asn	His	Val	Gly	Ser	Tyr	Arg	Lys	Glu	Ile	Ile	Ile	Pro	Ala
	130					135					140				
Glu	Trp	Ser	Glu	Lys	Glu	Ile	Phe	Ala	His	Phe	Gly	Ser	Val	Thr	Ser
145					150					155				160	
Asn	Met	Tyr	Leu	Trp	Val	Asn	Gly	Lys	Tyr	Val	Gly	Tyr	Ser	Glu	Asp
			165						170					175	
Ser	Lys	Leu	Glu	Ala	Glu	Phe	Asn	Leu	Thr	Lys	Tyr	Leu	Lys	Pro	Gly
		180						185					190		
Lys	Asn	Leu	Ile	Ala	Phe	Gln	Val	Phe	Arg	Trp	Cys	Asp	Gly	Thr	Tyr
		195					200					205			
Leu	Glu	Asp	Gln	Asp	Phe	Phe	Arg	Tyr	Ser	Gly	Val	Gly	Arg	Asn	Cys

	210					215					220				
Tyr 225	Leu	Tyr	Ser	Arg	Asn 230	Lys	Lys	Tyr	Ile	Gln 235	Asp	Ile	Arg	Val	Thr 240
Pro	Asp	Leu	Asp	Ser 245	Asn	Tyr	Thr	Asn	Gly 250	Thr	Leu	Asn	Val	Ala 255	Leu
Asn	Leu	Asn	Gly 260	Ser	Gly	Thr	Val	Glu	Leu 265	Asn	Leu	Thr	Asp	Pro 270	Ala
Gly	Lys	Ser 275	Val	Ala	Thr	Ala	Gln 280	Val	Asn	Gly	Asn	Gly 285	Gln	Lys	Ser
Val	Val 290	Met	Asp	Val	Ser	Asn 295	Pro	Glu	Lys	Trp	Thr 300	Ala	Glu	Thr	Pro
Asn 305	Leu	Tyr	Thr	Leu	Thr 310	Ala	Thr	Leu	Lys	Asn 315	Gly	Ser	Asn	Thr	Leu 320
Glu	Val	Ile	Pro	Val 325	Lys	Val	Gly	Phe	Arg 330	Lys	Ile	Glu	Leu	Lys 335	Gly
Gly	Gln	Ile 340	Leu	Val	Asn	Gly	Gln	Pro	Val 345	Leu	Phe	Lys	Gly 350	Ala	Asp
Arg	His 355	Glu	Met	Asp	Pro	Asp	Gly 360	Gly	Tyr	Val	Val	Ser 365	Arg	Glu	Arg
Met	Leu 370	Gln	Asp	Ile	Leu	Arg 375	Met	Lys	Gln	Leu	Asn 380	Ile	Asn	Ala	Val
Arg 385	Thr	Cys	His	Tyr	Pro 390	Asp	Asp	Asn	Leu	Trp 395	Tyr	Asp	Leu	Cys	Asp 400
Gln	Tyr	Gly	Ile	Tyr 405	Val	Val	Ala	Glu	Ala 410	Asn	Ile	Glu	Ser	His 415	Gly
Met	Gly	Tyr	Gly 420	Lys	Glu	Thr	Leu	Ala 425	Lys	Asn	Pro	Ser	Tyr 430	Lys	Lys
Ala	His 435	Met	Glu	Arg	Asn	Gln	Arg 440	Asn	Val	Gln	Arg	Gly 445	Tyr	Asn	His
Pro	Ser 450	Ile	Ile	Phe	Trp	Ser 455	Leu	Gly	Asn	Glu	Ala 460	Gly	Tyr	Gly	Pro
Asn 465	Phe	Glu	Gln	Cys	Tyr 470	Thr	Trp	Ile	Lys	Asn 475	Glu	Asp	Lys	Thr	Arg 480
Ala	Val	Gln	Tyr	Glu 485	Gln	Ala	Gly	Thr	Asn 490	Glu	Phe	Thr	Asp	Ile 495	Phe
Cys	Pro	Met	Tyr 500	Tyr	Asp	Tyr	Asp	Ala 505	Cys	Lys	Lys	Tyr	Ser	Glu	Gly
Asn	Ile 515	Asp	Lys	Pro	Leu	Ile	Gln 520	Cys	Glu	Tyr	Ala 525	His	Ala	Met	Gly
Asn	Ser 530	Gln	Gly	Gly	Phe	Lys	Glu 535	Tyr	Trp	Asp	Leu 540	Ile	Arg	Lys	Tyr
Pro 545	Lys	Tyr	Gln	Gly 550	Phe	Ile	Trp	Asp	Phe 555	Val	Asp	Gln	Ser	Asn	560
His	Trp	Lys	Asn 565	Lys	Asp	Gly	Ile	Asp	Ile 570	Tyr	Gly	Tyr	Gly	Gly 575	Asp
Phe	Asn	Lys 580	Tyr	Asp	Ala	Ser	Asp	Asn 585	Asn	Phe	Asn	Asp	Asn	Gly 590	Leu
Ile	Ser 595	Pro	Asp	Arg	Arg	Pro	Asn 600	Pro	His	Ala	His	Glu 605	Val	Gly	Tyr
Phe	Tyr 610	Gln	Ser	Ile	Trp	Thr	Thr 615	Pro	Gly	Asp	Leu 620	Ser	Lys	Gly	Glu
Ile 625	Lys	Val	Tyr	Asn	Glu 630	Asn	Phe	Phe	Arg	Asp 635	Leu	Ser	Ala	Tyr	Tyr 640
Met	Glu	Trp	Gln 645	Leu	Leu	Ala	Asn	Gly	Glu	Val 650	Met	Gln	Thr	Gly 655	Val
Val	Gln	Asp 660	Leu	Asn	Val	Ala	Pro	Gln 665	Gln	Thr	Ala	Thr	Leu 670	Lys	Leu
Asn	Leu	Asn 675	Thr	Glu	Lys	Val	Cys 680	Pro	Cys	Lys	Glu	Leu	Leu	Leu	Asn 685



Val Thr Tyr Lys Leu Lys Ala Ala Glu Thr Leu Met Pro Ala Gly Ser  
 690 695 700  
 Thr Val Ala Tyr Asp Gln Leu Thr Ile Arg Pro Tyr Thr Ala Lys Ala  
 705 710 715 720  
 Leu Glu Leu Lys Asn Gln Lys Ala Ser Asn Leu Asp Ile Val Val Pro  
 725 730 735  
 Val Ile Lys Asp Asn Asp His Asn Tyr Leu Ile Val Glu Gly Glu Asn  
 740 745 750  
 Phe Ile Ile Glu Phe Asn Lys His Asn Gly Tyr Leu Ser Arg Tyr Glu  
 755 760 765  
 Ala Asp Gly Met Gln Leu Leu Asn Pro Gly Ala Gln Leu Thr Pro Asn  
 770 775 780  
 Phe Trp Arg Ala Pro Thr Asp Asn Asp Tyr Gly Ala Gly Leu Gln His  
 785 790 795 800  
 Arg Tyr Ala Val Trp Lys Asn Pro Gly Leu Lys Leu Thr Ser Leu Lys  
 805 810 815  
 Gln Ser Ile Glu Asn Glu Gln Ala Ile Val Gln Ala Glu Tyr Glu Met  
 820 825 830  
 Lys Ala Val Lys Gly Lys Leu Phe Leu Thr Tyr Val Ile Asn Asn Glu  
 835 840 845  
 Gly Ala Val Lys Val Thr Gln Lys Met Glu Ala Gly Lys Glu Glu Lys  
 850 855 860  
 Val Ser Asp Met Phe Arg Phe Gly Met Gln Met Gln Met Pro Glu Asn  
 865 870 875 880  
 Phe Asn Glu Val Glu Tyr Tyr Gly Arg Gly Pro Val Glu Asn Tyr Ala  
 885 890 895  
 Asp Arg Asn His Ser Thr Leu Ile Gly Lys Tyr Arg Gln Thr Val Ala  
 900 905 910  
 Glu Gln Phe Tyr Pro Tyr Ile Arg Pro Gln Glu Thr Gly Thr Lys Thr  
 915 920 925  
 Asp Leu Arg Trp Trp Arg Val Leu Asn Ile Ser Gly Asn Gly Leu Gln  
 930 935 940  
 Phe Val Gly Asp Ala Pro Phe Ser Ala Ser Ala Leu Asn Tyr Ser Ile  
 945 950 955 960  
 Glu Ser Leu Asp Asp Gly Val Gln Lys Asp Gln Arg His Ser Pro Glu  
 965 970 975  
 Val Ala Lys Ala Pro Phe Thr Asn Leu Cys Ile Asp Lys Val Gln Met  
 980 985 990  
 Gly Leu Gly Cys Val Asn Ser Trp Gly Thr Leu Pro Leu Glu Lys Tyr  
 995 1000 1005  
 Arg Val Pro Tyr Gln Asp Tyr Glu Phe Ser Phe Ile Leu Thr Pro Val  
 1010 1015 1020  
 Arg His Lys Val Asn Met  
 1025 1030

&lt;210&gt; 10401

&lt;211&gt; 450

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10401

Leu Tyr Arg Leu Tyr Ile Gln Asn Ile Ser Arg Lys Asp Lys Ile Phe  
 1 5 10 15  
 Ile Thr Phe Val Glu His Ile Asn Val Leu Leu Thr Met Glu Gln Leu  
 20 25 30  
 Leu His Tyr Val Trp Lys His Lys Ile Phe Pro Leu His Glu Leu Gln  
 35 40 45  
 Thr Thr Thr Gly Leu Pro Val Glu Val Ile Asp Thr Gly Leu Pro Asn  
 50 55 60

## 6190

Ser Asp Ser Gly Pro Asp Phe Phe Asn Ala Lys Leu Lys Ile Gly Gly  
 65 70 75 80  
 Thr Leu Trp Val Gly Asn Val Glu Ile His Thr Ala Ser Ser Asp Trp  
 85 90 95  
 Phe Arg His Gly His Asp Arg Asp Ile Ala Tyr Asp Ser Val Ile Leu  
 100 105 110  
 His Ile Val Thr Glu Ile Asp Cys Glu Ile Tyr Arg Ser Asn Gly Glu  
 115 120 125  
 Pro Val Pro Gln Leu Arg Leu Pro Cys Pro Glu Gln Val Lys Glu His  
 130 135 140  
 Tyr Asp Glu Leu Cys Arg Ala Asp Ile His Pro Cys Tyr Ser Ile  
 145 150 155 160  
 Leu Glu Thr Leu Pro Lys Leu Thr Ile His Ser Trp Leu Thr Ala Leu  
 165 170 175  
 Gln Thr Glu Arg Phe Asp Gln Lys Asn Arg Thr Ile Thr Arg Arg Leu  
 180 185 190  
 Gln Arg Cys Asn Gln His Trp Glu Asp Ala Phe Phe Ile Thr Leu Ala  
 195 200 205  
 Arg Asn Phe Gly Phe Gly Leu Asn Gly Asp Ala Phe Glu Thr Trp Ala  
 210 215 220  
 Asn Leu Leu Ser Phe Arg Ala Ile Asp Lys His Arg Asp Asp Leu Thr  
 225 230 235 240  
 Gln Val Glu Ala Phe Phe Phe Gly Gln Ala Gly Leu Leu Glu Gly Glu  
 245 250 255  
 Ser Ala Asp Asp Tyr Phe Ser Trp Met Gln Lys Glu Phe Arg Tyr Leu  
 260 265 270  
 Gln His Lys Phe Glu Leu Pro Pro Val Met Asn Pro Ser Leu Trp Arg  
 275 280 285  
 Phe Leu Arg Leu Arg Pro Gly Asn Phe Pro His Val Arg Leu Ala Gln  
 290 295 300  
 Leu Ala Ser Leu Tyr Tyr Arg Glu His Ser Leu Phe Ser Arg Val Met  
 305 310 315 320  
 Glu Ala Glu Thr Leu Lys Asp Leu Lys Gln Ile Phe Ala Gly His Thr  
 325 330 335  
 Ser Ala Tyr Trp Glu Glu His Phe Met Phe Gly Lys Ser Ser Pro Arg  
 340 345 350  
 Arg Glu Lys Ser Ile Gly Ala Gly Ala Lys Glu Leu Ile Ile Ile Asn  
 355 360 365  
 Thr Val Ile Pro Phe Leu Tyr Ala Tyr Gly Leu His Lys Ala Asp Glu  
 370 375 380  
 Arg Leu Cys Glu Arg Ala Ser Leu Leu Glu Leu Lys Ala Glu  
 385 390 395 400  
 Asn Asn Tyr Val Thr Arg Met Trp Ser Gly Ala Gly Ile Pro Val Gln  
 405 410 415  
 Thr Ala Ala Asp Ser Gln Ala Leu Leu Gln Leu Gln Lys Glu Tyr Cys  
 420 425 430  
 Asp Lys Lys Lys Cys Leu Tyr Cys Arg Phe Gly Tyr Glu Tyr Leu Arg  
 435 440 445  
 His Lys  
 450

&lt;210&gt; 10402

&lt;211&gt; 74

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10402

Glu Leu Phe Arg Leu Thr Val Val Gly Cys Asn Val Ser Thr Ala His  
 1 5 10 15

Ser Gly Val Pro Pro Met Leu Lys Pro Phe Leu Pro Gln Pro Asp Asn  
 20 25 30  
 Lys Ala Lys Gln Asn Ala Asn Lys Thr Ile Leu Leu Phe Ile Pro Ser  
 35 40 45  
 Leu Tyr Ser Ile Phe Asn Asp Val His Phe Val Ala Lys Trp Phe Ile  
 50 55 60  
 Val Ile Thr Leu Ser Gly Ile Asp Glu Asn  
 65 70

<210> 10403  
 <211> 275  
 <212> PRT  
 <213> B.fragilis

<400> 10403  
 Ala Ser Ile Arg His Trp Ala Ala Glu Glu Lys Ile Asn Phe Lys Tyr  
 1 5 10 15  
 Asn Thr Ile Met Ile Ser Pro Leu Ala Ser Ile Ala Pro Gly Ala Lys  
 20 25 30  
 Ile Gly Lys Asn Val Ile Ile Gln Pro Phe Ala Tyr Ile Glu Asp Asn  
 35 40 45  
 Val Glu Ile Gly Asp Asp Cys Ile Ile Met Pro Tyr Ala Ser Val Leu  
 50 55 60  
 Asn Gly Thr Arg Leu Gly Lys Gly Asn Lys Val Tyr Gln His Ala Val  
 65 70 75 80  
 Leu Gly Ala Glu Pro Gln Asp Phe His Tyr Lys Gly Glu Glu Ser Ser  
 85 90 95  
 Leu Ile Ile Gly Asp Asn Asn His Ile Arg Glu Asn Val Val Ile Ser  
 100 105 110  
 Arg Ala Thr Phe Gly Gly Asn Ala Thr Lys Ile Gly Asn Gly Asn Phe  
 115 120 125  
 Leu Met Asp Lys Val His Ile Cys His Asp Val Gln Ile Gly Asp Asn  
 130 135 140  
 Cys Val Ala Gly Ile Gly Thr Thr Ile Ala Gly Glu Cys Thr Leu Asp  
 145 150 155 160  
 Asp Cys Val Ile Leu Ser Gly Asn Val Thr Leu His Gln Tyr Cys His  
 165 170 175  
 Val Gly Gln Trp Thr Leu Val Gln Ser Gly Cys Arg Ile Ser Lys Asp  
 180 185 190  
 Val Pro Pro Tyr Ser Ile Met Ala Gly Asn Pro Val Glu Tyr His Gly  
 195 200 205  
 Val Asn Ala Val Val Leu Gln Gln His Lys Asn Thr Ser Glu Arg Val  
 210 215 220  
 Leu Arg His Ile Ala Asn Ala Tyr Arg Leu Ile Tyr Gln Gly Asn Phe  
 225 230 235 240  
 Ser Leu Gln Asp Ala Val Gln Lys Ile Ile Asp Gln Val Pro Met Ser  
 245 250 255  
 Glu Glu Ile Glu Asn Ile Val Ala Phe Val Lys Glu Ser Lys Arg Gly  
 260 265 270  
 Ile Val Lys  
 275

<210> 10404  
 <211> 433  
 <212> PRT  
 <213> B.fragilis

<400> 10404  
 Thr Thr Ile Ser Phe Ile Val Phe Leu Cys Pro Gln Pro Asn Leu Ile

CAUTION: 10403

1	5	10	15
Val Arg Met Lys Gln Leu Ser Thr Arg Ala Glu Met Gln Tyr Asn Ile			
20		25	30
His Thr Leu Ser Asn Gly Leu Arg Ile Ile His Glu Pro Ser Ser Ser			
35		40	45
Lys Val Ala Tyr Cys Gly Phe Ala Val Asp Ala Gly Thr Arg Asp Glu			
50		55	60
Ala Glu Asn Glu Gln Gly Met Ala His Phe Val Glu His Leu Ile Phe			
65		70	75
Lys Gly Thr Arg Lys Arg Lys Ala Trp His Ile Leu Asn Arg Met Glu			
85		90	95
Asn Val Gly Gly Asp Leu Asn Ala Tyr Thr Asn Lys Glu Glu Thr Val			
100		105	110
Ile Tyr Ser Ala Phe Leu Thr Glu His Phe Gly Arg Ala Leu Glu Leu			
115		120	125
Leu Gly Gly Tyr Arg Phe Pro Phe His Leu Ser Ala Glu Arg Asn Arg			
130		135	140
Lys Arg Asp Arg Gly Asp Ile Asp Glu Ile Gln Ser Tyr Glu Asp Thr			
145		150	155
Pro Ser Glu Leu Ile Phe Asp Asp Phe Glu Asp Met Ile Phe Arg Asn			
165		170	175
His Pro Leu Gly Arg Asn Ile Leu Gly Arg Pro Asp Leu Leu Lys Lys			
180		185	190
Phe Arg Ser Glu Asp Ala Met Ala Phe Thr Ser Arg Phe Tyr Gln Pro			
195		200	205
Ser Asn Met Val Phe Phe Val Leu Gly Asp Phe Asn Phe Gln Lys Ile			
210		215	220
Val Arg Gln Val Glu Lys Leu Leu Val Asp Leu Pro Leu Val Thr Val			
225		230	235
Glu Asn Gln Arg Thr Ile Pro Pro Leu Tyr Val Pro Glu Gln Leu Val			
245		250	255
Val His Lys Glu Thr His Gln Ala His Val Met Ile Gly Ser Arg Gly			
260		265	270
Tyr Asn Ala Tyr Asp Asp Lys Arg Thr Ala Leu Tyr Leu Leu Asn Asn			
275		280	285
Ile Leu Gly Gly Pro Gly Met Asn Ser Arg Leu Asn Val Ser Leu Arg			
290		295	300
Glu Arg Arg Gly Leu Val Tyr Thr Val Glu Ser Asn Leu Thr Ser Tyr			
305		310	315
Thr Asp Thr Gly Ala Phe Cys Ile Tyr Phe Gly Thr Asp Pro Glu Asp			
325		330	335
Val Asp Thr Cys Leu Lys Leu Thr Tyr Lys Glu Leu Lys Arg Met Arg			
340		345	350
Asp Val Lys Met Thr Ser Ser Gln Leu Met Ala Ala Lys Lys Gln Leu			
355		360	365
Ile Gly Gln Ile Gly Val Ala Ser Asp Asn Asn Glu Asn Asn Ala Leu			
370		375	380
Gly Met Ala Lys Thr Phe Leu His Tyr Asn Lys Tyr Glu Ser Ser Glu			
385		390	395
Ser Val Phe Arg Arg Ile Glu Ala Leu Thr Ala Glu Gly Leu Leu Glu			
405		410	415
Val Ala Asn Glu Met Phe Ala Glu Glu Tyr Leu Ser Thr Leu Ile Tyr			
420		425	430
Arg			

&lt;210&gt; 10405

&lt;211&gt; 498

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10405

Lys Ile Asn Ile Met Arg Lys Ala Thr Arg Thr Gln Trp Ile Lys Cys  
 1 5 10 15  
 Ser Ile Ala Ile Leu Leu Tyr Leu Ile Phe Leu Ile Trp Val Lys Ser  
 20 25 30  
 Trp Trp Gly Leu Ile Val Val Pro Phe Ile Phe Asp Ile Tyr Ile Thr  
 35 40 45  
 Lys Lys Ile Pro Trp Ser Phe Trp Lys Lys Ser Lys Asn Pro Thr Val  
 50 55 60  
 Arg Ser Val Met Ser Trp Val Asp Ala Ile Val Phe Ala Leu Val Ala  
 65 70 75 80  
 Val Tyr Phe Val Asn Ile Tyr Val Phe Gln Asn Tyr Gln Ile Pro Ser  
 85 90 95  
 Ser Ser Leu Glu Lys Ser Leu Leu Val Gly Asp Phe Leu Tyr Val Ser  
 100 105 110  
 Lys Met Ser Tyr Gly Pro Arg Val Pro Asn Thr Pro Leu Ser Met Pro  
 115 120 125  
 Leu Ala Gln His Thr Leu Pro Ile Leu Asn Thr Lys Ser Tyr Ile Glu  
 130 135 140  
 Trp Pro Gln Trp Lys Tyr Lys Arg Val Pro Gly Phe Gly Lys Val Lys  
 145 150 155 160  
 Leu Asn Asp Ile Val Val Phe Asn Phe Pro Ala Gly Asp Thr Val Ala  
 165 170 175  
 Leu Asn Phe Gln Asp Ala Asp Phe Tyr Thr Leu Ala Tyr Asn Ile Gly  
 180 185 190  
 Lys Gln Ile Tyr Pro Asn Pro Ile Asp Met Asp Ser Leu Thr Arg Glu  
 195 200 205  
 Gln Gln Lys Thr Val Tyr Asp Leu Tyr Tyr Asn Ala Gly Arg Lys Glu  
 210 215 220  
 Ile Leu Ser Asn Pro Gln Arg Tyr Gly Lys Val Val Thr Arg Pro Val  
 225 230 235 240  
 Asp Arg Arg Glu Asn Tyr Val Lys Arg Cys Val Gly Leu Pro Gly Asp  
 245 250 255  
 Thr Leu Gln Ile Ile Asn Gly Gln Val Met Ile Asp Gly Lys Ala Ile  
 260 265 270  
 Glu Asn Pro Glu Asn Leu Gln Phe Asn Tyr Phe Val Gln Thr Thr Gly  
 275 280 285  
 Pro Tyr Ile Thr Glu Glu Met Phe Arg Glu Leu Gly Ile Ser Lys Ala  
 290 295 300  
 Asp Gln Arg Leu Thr Pro Glu Gly Ala Ser Tyr Glu Glu Gly Leu Ile  
 305 310 315 320  
 Glu Leu Gly Leu Asp Gly Arg Asn Ala Gln Gly Gly Leu Asn Pro Val  
 325 330 335  
 Tyr His Leu Pro Leu Thr Lys Lys Met Tyr Asp Thr Leu Ser Gly Asn  
 340 345 350  
 Lys Lys Leu Val Gly Lys Ile Val Ile Glu Pro Glu Glu Tyr Ser Gly  
 355 360 365  
 Glu Val Tyr Pro Leu Asn Leu Asn Thr His Trp Asn Arg Ser Asp Tyr  
 370 375 380  
 Gly Pro Ile Trp Ile Pro Ala Lys Gly Ala Thr Ile Thr Leu Thr Pro  
 385 390 395 400  
 Asp Asn Leu Pro Ile Tyr Glu Arg Cys Ile Thr Ala Tyr Glu Gly Asn  
 405 410 415  
 Lys Leu Glu Gln Lys Glu Asp Gly Ile Tyr Ile Asn Gly Val Lys Thr  
 420 425 430  
 Asn Gln Tyr Thr Phe Gln Met Asp Tyr Tyr Trp Met Met Gly Asp Asn  
 435 440 445

Arg His Asn Ser Ala Asp Ser Arg Tyr Trp Gly Phe Val Pro Glu Asp  
 450 455 460  
 His Val Val Gly Lys Pro Ile Val Val Trp Leu Ser Leu Asp Lys Asp  
 465 470 475 480  
 Arg Asn Trp Phe Asp Gly Lys Ile Arg Trp Asn Arg Ile Phe Lys Trp  
 485 490 495  
 Val Asp

<210> 10406  
 <211> 112  
 <212> PRT  
 <213> B.fragilis

<400> 10406  
 Arg Ser Tyr Phe Leu Trp Ser Tyr Gly Gly Ile Ser Pro Pro Tyr Arg  
 1 5 10 15  
 Thr Trp Asn Pro Ser Gly Arg Asn Phe Ile Gly Lys Gln Gly Gly Lys  
 20 25 30  
 Leu Ile Leu Ile Met Val Trp Asp Glu Asn Gln Lys Gly Glu Pro Gly  
 35 40 45  
 Lys Arg Arg Lys Gly Leu Trp Val Leu Pro Leu Ile Glu Lys Glu Thr  
 50 55 60  
 Asp Ile Ser Leu Arg Val Phe Asp Leu Arg Pro Arg Pro Trp Ala Arg  
 65 70 75 80  
 Asn Tyr Pro Gly Phe Tyr Glu Asp Lys Arg Leu Leu Asp Arg Ser Ile  
 85 90 95  
 Leu Arg Ala Ile Trp Thr Arg Thr Phe Phe Asp Ile Asn Val Ala Cys  
 100 105 110

<210> 10407  
 <211> 371  
 <212> PRT  
 <213> B.fragilis

<400> 10407  
 Leu Tyr His Val Thr Arg Ile Pro Ile Phe Ala Ile Ser Ala Phe Arg  
 1 5 10 15  
 Gln Ile Gln Thr Met Tyr Lys Asn Leu Phe Asn Leu Leu Thr Ile Leu  
 20 25 30  
 Leu Ile Leu Pro Ser Cys Thr Asp Met Ser Pro Asn Ile Ser Val Val  
 35 40 45  
 Cys Glu Glu Asn Asn Ile Gly Asn Cys Ile Leu Lys Trp Glu Thr Thr  
 50 55 60  
 Pro Leu Ile Lys Gly Gln Val Lys Val Tyr Thr Ser Asp Asn Pro Glu  
 65 70 75 80  
 Phe Ile Pro Glu Asp Asn Pro Val Ala Met Ala Asn Ile Ser Asp Ala  
 85 90 95  
 Arg Met Thr Ile Val Thr Asn Asp Pro Ser Arg Arg Ser Tyr Tyr Met  
 100 105 110  
 Leu Val Phe Asn Asp Lys Tyr Cys Val Lys Val Ala Pro Arg Asn Val  
 115 120 125  
 Asn Met Pro Gly Ile Gln Asn Phe Arg Asp Leu Gly Gly Tyr Lys Ser  
 130 135 140  
 Ala Thr Gly Lys His Val Arg Trp Gly Lys Leu Tyr Arg Ser Ala Gln  
 145 150 155 160  
 Ile Asp Ser Leu His Cys Phe Ala Leu Arg Lys Leu Gln Asn Leu Gly  
 165 170 175  
 Ile Lys Thr Ile Leu Asp Leu Arg Ser Glu Ser Glu Leu His Asn Thr

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<210> 10408
<211> 214
<212> PRT
<213> B.fragilis
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[illegible]

210

&lt;210&gt; 10409

&lt;211&gt; 485

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (467), (474), (476), (481), (483)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 10409

Cys	Val	Ser	Leu	His	Pro	Lys	Ile	Lys	Ile	Tyr	Arg	Asp	Leu	Met	Lys	1	5	10	15
Thr	Phe	Glu	Glu	Leu	Gly	Val	Ser	Pro	Glu	Ile	Arg	Lys	Ala	Ile	Glu	20	25	30	
Glu	Met	Gly	Tyr	Glu	Asn	Pro	Met	Pro	Val	Gln	Glu	Glu	Val	Ile	Pro	35	40	45	
Tyr	Leu	Leu	Gly	Glu	Asn	Asn	Asp	Val	Val	Ala	Leu	Ala	Gln	Thr	Gly	50	55	60	
Thr	Gly	Lys	Thr	Ala	Ala	Phe	Gly	Leu	Pro	Leu	Ile	Gln	Lys	Ile	Asn	65	70	75	80
Val	Lys	Asn	Arg	Ile	Pro	Gln	Ser	Leu	Val	Leu	Cys	Pro	Thr	Arg	Glu	85	90	95	
Leu	Cys	Leu	Gln	Ile	Ala	Gly	Asp	Leu	Asn	Asp	Tyr	Ser	Lys	Tyr	Ile	100	105	110	
Asp	Gly	Leu	Lys	Val	Leu	Pro	Val	Tyr	Gly	Gly	Ser	Ser	Ile	Asp	Ser	115	120	125	
Gln	Ile	Arg	Ser	Leu	Lys	Arg	Gly	Val	His	Ile	Ile	Val	Ala	Thr	Pro	130	135	140	
Gly	Arg	Leu	Leu	Asp	Leu	Met	Glu	Arg	Lys	Thr	Val	Ser	Leu	Ala	Thr	145	150	155	160
Val	Thr	Asn	Val	Val	Met	Asp	Glu	Ala	Asp	Glu	Met	Leu	Asn	Met	Gly	165	170	175	
Phe	Thr	Asp	Ser	Ile	Asn	Ala	Ile	Leu	Ala	Asp	Val	Pro	Gln	Glu	Arg	180	185	190	
Asn	Thr	Leu	Phe	Ser	Ala	Thr	Met	Ser	Pro	Glu	Ile	Ala	Arg	Ile		195	200	205	
Ser	Lys	Asn	Tyr	Leu	His	Asn	Ala	Lys	Glu	Ile	Thr	Ile	Gly	Arg	Lys	210	215	220	
Asn	Glu	Ser	Thr	Ser	Asn	Val	Lys	His	Val	Val	Tyr	Thr	Val	His	Ala	225	230	235	240
Lys	Asp	Lys	Tyr	Ala	Ala	Leu	Lys	Arg	Ile	Val	Asp	Tyr	Tyr	Pro	Gln	245	250	255	
Ile	Tyr	Gly	Ile	Ile	Phe	Cys	Arg	Thr	Arg	Lys	Glu	Thr	Gln	Glu	Ile	260	265	270	
Ala	Asp	Lys	Leu	Met	Gln	Glu	Gly	Tyr	Asn	Ala	Asp	Ser	Leu	His	Gly	275	280	285	
Glu	Leu	Ser	Gln	Ala	Gln	Arg	Asp	Thr	Val	Met	Gln	Lys	Phe	Arg	Ile	290	295	300	
Arg	Asn	Ile	Gln	Ile	Leu	Val	Ala	Thr	Asp	Val	Ala	Ala	Arg	Gly	Leu	305	310	315	320
Asp	Val	Asp	Asp	Leu	Thr	His	Val	Ile	Asn	Tyr	Gly	Leu	Pro	Asp	Asp	325	330	335	
Thr	Glu	Ser	Tyr	Thr	His	Arg	Ser	Gly	Arg	Thr	Gly	Arg	Ala	Gly	Lys	340	345	350	
Thr	Gly	Thr	Ser	Ile	Ala	Ile	Ile	Asn	Leu	Arg	Glu	Lys	Gly	Lys	Met	355	360	365	

10409  
 485  
 PRT  
 B.fragilis  
 UNSURE  
 (467), (474), (476), (481), (483)  
 Identity of amino acid sequences at the above locations are unknown.  
 10409



Arg Glu Ile Glu Arg Ile Ile Gly Lys Lys Phe Ile Ala Gly Glu Met  
 370 375 380  
 Pro Thr Gly Lys Gln Ile Cys Glu Lys Gln Leu Leu Lys Val Ile Asp  
 385 390 395 400  
 Asp Leu Glu Lys Val Lys Val Asn Glu Glu Asp Ile Asn Asp Phe Met  
 405 410 415  
 Pro Glu Ile Tyr Arg Lys Leu Glu Trp Leu Ser Lys Glu Asp Leu Ile  
 420 425 430  
 Lys Arg Met Val Ser His Glu Phe Asn Arg Phe Val Asp Tyr Tyr Arg  
 435 440 445  
 Asn Arg Glu Glu Ile Glu Val Pro Thr Asp Ser Arg Arg Ser Ser Pro  
 450 455 460  
 Arg Gly Xaa Met Pro Thr Leu Phe Ser Xaa Phe Xaa Thr Leu Ser Ile  
 465 470 475 480  
 Xaa Pro Xaa Pro Leu  
 485

&lt;210&gt; 10410

&lt;211&gt; 144

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10410

Gln Arg Gly Pro Phe Tyr Phe Tyr Ser Pro Phe Glu Thr Gly Gly Lys  
 1 5 10 15  
 Pro Met Lys Arg Leu Val Val Leu Leu Phe Gly Leu Val Gly Ala Ala  
 20 25 30  
 Leu Phe Met Ser Ala Ala Asn Ser Gly Asp Arg Val Leu Arg Asp Ser  
 35 40 45  
 Ile Phe His Val Tyr Arg Ser Met Pro Ala Asp Thr Thr Arg Thr Val  
 50 55 60  
 Phe Ala Lys Glu Ala Ala Met Gly His Val Lys Glu Ser Trp Ala Leu  
 65 70 75 80  
 Glu Leu Leu Asp Ser Ala Leu Val Phe Ala Arg Glu Ile Lys Asp Val  
 85 90 95  
 Glu Gly Glu Leu Glu Leu Gln Tyr Gly Ile Phe Arg Tyr Tyr Thr Phe  
 100 105 110  
 Arg Met Asp Gly Glu Asn Met Glu Lys Thr Cys Ala Thr Leu Arg Glu  
 115 120 125  
 Ala Cys Tyr Arg Tyr Val Phe Thr Thr Gly Leu Glu Gly Ala Ala Leu  
 130 135 140

&lt;210&gt; 10411

&lt;211&gt; 375

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10411

Val Ile Phe Ala Asn Leu Thr Gln Asn Ile Lys Met Lys Gln Leu Ile  
 1 5 10 15  
 Leu Ser Gly Met Phe Val Val Cys Gly Leu Ser Val Ser Leu Ala Ser  
 20 25 30  
 Glu Lys Trp Ala Val Asp Ser Ile Asn Trp His Arg Ala Glu Gln Lys  
 35 40 45  
 Met Gln Glu Lys Asp Phe Gln Asp Ala Ala Leu Thr Tyr Lys Glu Leu  
 50 55 60  
 Ile Thr Lys Gly Asp Ser Leu Phe Val Asp Tyr Ala Gly Arg His Val  
 65 70 75 80  
 Glu Asp Met Arg Glu Gln Tyr Ser Ile Asp Glu Leu Asp Leu Gln Asn

				85					90					95	
Gly	Met	Gln	Gln	Lys	Lys	Ile	Trp	Lys	Leu	Val	Phe	Ile	Thr	Ile	Leu
			100					105					110		
Cys	Leu	Ala	Val	Leu	Leu	Phe	Val	Gly	Leu	Leu	Tyr	Leu	Arg	Arg	Ala
		115					120					125			
Glu	Arg	Lys	Leu	Leu	Phe	Ser	Arg	Glu	Glu	Leu	Gln	Lys	Ala	Lys	Arg
	130					135					140				
Leu	Ala	Glu	Glu	Ser	Val	Arg	Asn	Lys	Ser	Val	Phe	Leu	Ser	Asn	Met
145					150					155					160
Ser	His	Glu	Ile	Lys	Thr	Pro	Leu	Asn	Ala	Leu	Ala	Gly	Phe	Ser	Glu
			165					170					175		
Ile	Leu	Ile	Thr	Pro	Gly	Ile	Asp	Asp	Glu	Val	Arg	Ala	Gln	Cys	Asn
			180				185						190		
Asp	Val	Ile	Arg	Leu	Asn	Ser	Asp	Leu	Leu	Leu	His	Leu	Val	Asn	Asp
	195						200					205			
Val	Val	Asp	Val	Ser	Cys	Leu	Asp	Val	Ala	Asn	Met	Arg	Phe	Ser	Val
	210					215					220				
Val	Pro	His	Glu	Val	Val	Ala	Leu	Cys	Arg	Asn	Val	Val	Glu	Met	Leu
225					230				235						240
Arg	Asn	Ile	Lys	Gln	Thr	Ser	Ala	Glu	Met	Ile	Phe	Glu	Thr	Glu	Leu
			245					250					255		
Ser	Ala	Leu	Glu	Met	Glu	Thr	Asp	Pro	Cys	Arg	Leu	Gln	Gln	Val	Leu
		260					265					270			
Ile	Asn	Leu	Leu	Val	Asn	Ala	Thr	Lys	Phe	Thr	Lys	Glu	Gly	Tyr	Ile
	275						280					285			
Thr	Leu	Thr	Leu	Arg	Ile	Asn	Glu	Ala	Gly	Val	Pro	Glu	Phe	Met	Val
	290				295					300					
Thr	Asp	Thr	Gly	Cys	Gly	Ile	Pro	Leu	Glu	Asn	Gln	Glu	Ala	Val	Phe
305				310					315						320
Ser	Arg	Phe	Glu	Lys	Leu	Asn	Glu	Gly	Ile	Gln	Gly	Thr	Gly	Leu	Gly
			325					330					335		
Leu	Ser	Ile	Cys	Lys	Leu	Ile	Ile	Asn	Arg	Met	Gly	Gly	Asp	Ile	Arg
		340					345				350				
Val	Asp	Ser	Thr	Tyr	Ser	Lys	Gly	Ala	Arg	Phe	Ile	Phe	Thr	His	Pro
	355					360					365				
Leu	Lys	Gln	Glu	Glu	Asn	Arg									
	370					375									

&lt;210&gt; 10412

&lt;211&gt; 124

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10412

Pro	Arg	Asn	Lys	Tyr	Ala	Phe	Ile	Val	Val	Asn	Tyr	Ala	Asn	Gly	Asp
1			5					10					15		
Met	Val	Gly	His	Thr	Gly	Ile	Tyr	Glu	Ala	Ile	Glu	Lys	Ala	Val	Val
		20					25				30				
Ala	Val	Asp	Ala	Cys	Val	Lys	Asp	Thr	Ile	Glu	Ala	Ala	Lys	Ala	Gln
	35					40				45					
Gly	Tyr	Glu	Ala	Ile	Ile	Ile	Ala	Asp	His	Gly	Asn	Ala	Asp	His	Ala
	50				55				60						
Leu	Asn	Glu	Asp	Gly	Thr	Pro	Asn	Thr	Ala	His	Ser	Leu	Asn	Pro	Val
65				70				75					80		
Pro	Cys	Val	Tyr	Val	Thr	Glu	Asn	Lys	Glu	Ala	Lys	Val	Ala	Asp	Gly
			85				90					95			
Arg	Leu	Ala	Asp	Val	Ala	Pro	Thr	Ile	Leu	His	Ile	Leu	Asp	Met	Val
		100				105					110				
Gln	Pro	Ala	Glu	Met	Thr	Gly	Cys	Asn	Leu	Ile	Lys				

115

120

<210> 10413  
 <211> 186  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 10413

Asn	Lys	Leu	Ser	Asn	Pro	Met	His	Thr	Thr	Ile	Leu	Glu	Thr	Glu	Arg
1			5						10					15	
Leu	Leu	Leu	Arg	Pro	Phe	Arg	Glu	Thr	Asp	Leu	Gln	Glu	Leu	Phe	Glu
		20						25					30		
Cys	Cys	Gln	Asn	Pro	Asn	Leu	Gly	Asn	Asn	Ala	Gly	Trp	Glu	Pro	His
		35					40					45			
Lys	Asn	Ile	Glu	Asp	Ser	Lys	Glu	Val	Leu	His	Thr	Val	Phe	Met	Gly
	50					55					60				
Asn	Glu	Gly	Val	Phe	Ala	Ile	Ile	Leu	Lys	Glu	Asp	Asn	Ser	Leu	Val
65					70					75				80	
Gly	Ser	Ile	Gly	Ile	Ile	Thr	Asp	Pro	Lys	Arg	Glu	Asn	Thr	Arg	Thr
				85					90					95	
Arg	Met	Leu	Gly	Tyr	Trp	Leu	Lys	Glu	Cys	His	Trp	Gly	Lys	Gly	Met
			100					105					110		
Ala	Ser	Glu	Ala	Thr	Arg	Thr	Ile	Leu	Asp	Tyr	Gly	Phe	Asn	Val	Leu
		115					120					125			
Gly	Leu	His	Leu	Ile	Ser	Ala	Asn	Cys	Tyr	Pro	His	Asn	Thr	Arg	Ser
	130					135					140				
Arg	Leu	Leu	Leu	Glu	Arg	Asn	Gly	Phe	Val	Tyr	Glu	Gly	Ile	Leu	His
145					150					155				160	
Glu	Ala	Glu	Met	Thr	Tyr	Asp	Gly	His	Val	Tyr	Asp	His	Leu	Cys	Phe
				165					170					175	
Tyr	Gln	Lys	Lys	Gly	Arg	Val	Pro	Met	Asp						
			180					185							

<210> 10414  
 <211> 65  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 10414

His	Arg	Val	Pro	Gln	Ser	Glu	Leu	Asn	Leu	Leu	Ile	Thr	Asn	Asp	Ala
1				5					10					15	
Asp	Leu	Trp	Arg	Ile	Arg	Val	Leu	Thr	His	Pro	His	Leu	Val	Tyr	Ser
		20						25					30		
Leu	Tyr	Leu	Phe	Lys	Lys	Arg	Lys	Lys	Ile	His	Pro	Val	Thr	Leu	Val
		35					40					45			
Thr	Asn	Tyr	Leu	Tyr	Leu	Ile	Ser	Asp	Leu	Cys	Pro	Leu	Asn	Asn	Lys
	50					55					60				
Arg															
65															

<210> 10415  
 <211> 115  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 10415

Asn	Glu	Lys	Thr	Asn	Lys	Asn	Met	Glu	Gln	Ser	Phe	Lys	Lys	Gly	Ile
1				5					10					15	
Val	Leu	His	Leu	Ala	Ser	Leu	Val	Glu	Tyr	Ser	Glu	Gly	Gly	Ile	Ile

	20		25		30										
Ser	Lys	Gln	Leu	Ile	Lys	Ser	Pro	Ala	Gly	Asn	Ile	Thr	Leu	Phe	Ser
	35						40					45			
Phe	Asp	Lys	Gly	Glu	Gly	Leu	Ser	Glu	His	Ser	Ala	Pro	Phe	Asp	Ala
	50					55					60				
Leu	Val	Gln	Val	Leu	Glu	Gly	Ser	Ala	Asn	Ile	Val	Val	Asn	Gly	Gln
65					70					75					80
Val	Phe	Thr	Val	Asn	Ala	Gly	Glu	Ser	Ile	Val	Phe	Pro	Ala	Asn	Ala
				85					90					95	
Pro	His	Ala	Leu	Thr	Ala	Ile	Glu	Arg	Phe	Lys	Met	Leu	Leu	Thr	Met
			100					105						110	
Ile	Lys	Glu													
	115														

&lt;210&gt; 10416

&lt;211&gt; 404

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10416

Ser	Asn	Arg	Ala	Thr	Met	Asn	Ser	Lys	Lys	Val	Leu	Phe	Ile	Ile	Phe
1				5					10					15	
Ile	Cys	Thr	Leu	Thr	Val	Thr	Gly	Cys	Asp	Thr	Gln	Glu	Gln	Thr	Thr
			20					25					30		
Ile	Asp	Ser	Gly	Leu	Thr	Leu	Ile	Arg	Ala	Thr	Gln	Thr	Leu	Asp	Ser
			35				40					45			
Leu	Tyr	Ala	Asn	Tyr	Ser	Val	Ser	Gly	Thr	Cys	Leu	Leu	Ile	Glu	Asn
	50					55					60				
Tyr	Pro	Ser	Asn	Val	Gly	Asn	Tyr	Thr	Ala	Thr	Tyr	Leu	Ala	Ser	Glu
65				70						75					80
Glu	Gln	Lys	Glu	Ile	Pro	Asn	Gln	Tyr	Ser	Tyr	Leu	Trp	Pro	Tyr	Ser
				85					90					95	
Gly	Thr	Phe	Ser	Ala	Val	Asn	Ala	Leu	Trp	Ala	Ala	Thr	Gly	Asp	Glu
			100					105					110		
Ser	Tyr	Lys	Thr	Leu	Leu	Asp	Asn	Lys	Val	Leu	Arg	Gly	Leu	Glu	Lys
	115						120					125			
Tyr	Leu	Asp	Ile	Ser	Arg	Ser	Pro	Ala	Gly	Tyr	Ala	Ser	Tyr	Ile	Asn
	130						135				140				
Thr	Ala	Ser	Gln	Ser	Asp	Arg	Phe	Tyr	Asp	Asp	Asn	Ile	Trp	Leu	Gly
145					150					155					160
Ile	Asp	Phe	Thr	Asp	Ala	Tyr	Leu	Asn	Thr	Lys	Glu	Glu	Lys	Tyr	Leu
				165					170					175	
Lys	Lys	Ala	Gln	Leu	Ile	Trp	Glu	Phe	Ile	Glu	Ser	Gly	Ala	Asp	Asp
			180					185					190		
Lys	Leu	Gly	Gly	Gly	Ile	Tyr	Trp	Cys	Glu	Gln	Lys	Lys	Val	Ser	Lys
		195					200					205			
Asn	Thr	Cys	Ser	Asn	Ala	Pro	Ala	Ser	Val	Phe	Ala	Leu	Lys	Met	Phe
	210					215					220				
Lys	Ala	Ile	Arg	Asp	Ser	Ser	Tyr	Leu	Ile	Lys	Gly	Gln	Glu	Leu	Tyr
225					230					235					240
Glu	Trp	Thr	Lys	Lys	Arg	Leu	Gln	Asp	Ser	Thr	Asp	Tyr	Leu	Tyr	Phe
				245					250					255	
Asp	Asn	Ile	Ser	Leu	Asp	Gly	Lys	Ile	Asp	Lys	Ser	Lys	Tyr	Ala	Tyr
			260					265					270		
Asn	Ser	Gly	Gln	Met	Met	Gln	Ala	Thr	Leu	Leu	Tyr	Gln	Leu	Thr	
		275					280					285			
Gly	Cys	Ser	His	Phe	Leu	Lys	Asp	Ala	Gln	Asn	Ile	Ala	Lys	Ala	Cys
	290					295					300				
Tyr	Asn	Tyr	Phe	Phe	Ile	Asn	Phe	Ile	Pro	Glu	Glu	Gly	Glu	Pro	Phe

305 310 315 320  
 Lys Leu Leu Lys Lys Gly Asp Val Trp Phe Thr Ala Val Met Leu Arg  
 325 330 335  
 Gly Phe Ile Glu Leu Tyr Gln Thr Asp His Asn Lys Thr Tyr Ile Asn  
 340 345 350  
 Ser Phe Asn Gln Asn Met Asp Tyr Ala Trp Glu His Val Arg Asp Glu  
 355 360 365  
 Lys Gly Leu Phe Asp Ile Asp Phe Ser Gly Arg Thr His Asp Asp Arg  
 370 375 380  
 Lys Trp Leu Leu Thr Gln Ala Ala Met Val Glu Met Tyr Ala Arg Leu  
 385 390 395 400  
 Ala Val Thr Lys

<210> 10417  
 <211> 310  
 <212> PRT  
 <213> B.fragilis

<400> 10417  
 Tyr Asp Met Ala Lys Ile Gln Ile Lys Ser Glu Lys Leu Thr Pro Phe  
 1 5 10 15  
 Gly Gly Ile Phe Ser Ile Met Glu Lys Phe Asp Ser Met Leu Ser Pro  
 20 25 30  
 Val Ile Asp Ser Thr Leu Gly Gln Arg Cys Ser Ser Ile Phe Gly Tyr  
 35 40 45  
 Gln Phe Ser Glu Ile Val Arg Ser Leu Met Ser Val Tyr Phe Cys Gly  
 50 55 60  
 Gly Ser Cys Val Glu Asp Val Thr Ser Gln Leu Met Arg His Leu Ser  
 65 70 75 80  
 Tyr His Pro Thr Leu Arg Thr Cys Ser Ser Asp Thr Ile Leu Arg Ala  
 85 90 95  
 Ile Lys Glu Leu Thr Gln Glu Asn Ile Ser Tyr Thr Ser Asp Gln Gly  
 100 105 110  
 Lys Thr Tyr Asp Phe Asn Thr Ala Asp Lys Leu Asn Thr Leu Leu Ile  
 115 120 125  
 Asn Ala Leu Val Ser Thr Gly Glu Leu Lys Glu Ile Glu Glu Tyr Asp  
 130 135 140  
 Val Asp Phe Asp His Gln Phe Leu Glu Thr Glu Lys Tyr Asp Ala Lys  
 145 150 155 160  
 Pro Thr Tyr Lys Lys Phe Leu Gly Tyr Arg Pro Gly Val Tyr Val Ile  
 165 170 175  
 Gly Asp Lys Ile Val Tyr Ile Glu Asn Ser Asp Gly Asn Thr Asn Val  
 180 185 190  
 Arg Phe His Gln Ala Asp Thr His Lys Arg Phe Phe Ala Leu Leu Glu  
 195 200 205  
 Ser Gln Asn Ile Arg Val Asn Arg Phe Arg Ala Asp Cys Gly Ser Cys  
 210 215 220  
 Ser Ile Glu Ile Val Ser Glu Ile Glu Lys His Cys Lys His Phe Tyr  
 225 230 235 240  
 Ile Arg Ala Asn Arg Cys Ser Ser Leu Tyr Asn Asp Ile Phe Ala Leu  
 245 250 255  
 Arg Gly Trp Lys Thr Glu Glu Ile Asn Gly Ile Gln Phe Asp Leu Ile  
 260 265 270  
 Pro Phe Leu Arg Asn Gly Lys Ala Ser Ala Ile Val Leu Ser Ser  
 275 280 285  
 Arg Asp Lys Asp Ala Thr Val Ala Thr Leu Thr Cys Gly Lys Ala Asn  
 290 295 300  
 Thr Leu Thr Asp Ala Phe

10417 310 PRT B.fragilis

305

310

<210> 10418  
 <211> 229  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 10418

Asn	Tyr	Ser	Tyr	His	Pro	Asn	Arg	Glu	Ser	Ser	Tyr	Phe	Phe	Cys	Leu
1				5					10					15	
Tyr	Asn	Gln	Glu	Ile	Asn	Tyr	Lys	Thr	Lys	Asn	Arg	Lys	His	Met	Gln
		20						25					30		
Lys	Val	Leu	Phe	Ile	Thr	Thr	Ile	Leu	Leu	Thr	Leu	Phe	Ala	Leu	Ser
		35					40					45			
Ile	Arg	Ala	Glu	His	Asn	Pro	Arg	Lys	Arg	Pro	Asp	Val	Ser	Ala	Gln
	50				55					60					
Phe	Gln	Thr	Val	Ser	Gly	His	Ser	Ile	Ser	Leu	Asn	Gly	Ile	Gly	Leu
65					70					75					80
Ala	Tyr	Ser	Tyr	Glu	Tyr	Ala	Phe	Thr	Pro	Lys	Gly	Thr	Ile	Ile	Phe
				85				90						95	
Ser	Ala	Gly	Ser	Ser	Tyr	Ala	Phe	Gly	Arg	Ile	Leu	Gln	Leu	Lys	Met
		100						105					110		
Glu	Ser	Leu	Arg	Glu	Phe	His	Ile	Asp	Thr	Lys	Asp	Tyr	His	Leu	Val
		115					120						125		
Thr	Gly	Asp	Leu	Ala	Ile	Glu	Pro	Arg	Phe	Tyr	Tyr	Asn	Leu	Lys	Lys
	130					135						140			
Arg	His	Arg	Asn	Gly	Lys	Arg	Thr	Trp	Gly	Asn	Ser	Gly	Gly	Tyr	Leu
145					150					155					160
Ser	Val	Asn	Phe	Gly	Tyr	Ser	Phe	Pro	Ile	Thr	Ile	Thr	Ser	Gly	Val
			165						170					175	
Lys	Ala	Ala	His	Ile	Tyr	Val	Ile	Thr	Pro	Tyr	Trp	Gly	Phe	Arg	Arg
			180					185					190		
Val	Trp	Lys	His	Phe	Leu	Phe	Asp	Leu	Ser	Gly	Gly	Val	Gly	Tyr	Ile
		195					200					205			
Gly	Ser	Ser	Asn	Arg	Thr	Ser	Ala	Val	Tyr	Pro	Gly	Leu	Arg	Ile	Gly
	210					215					220				
Leu	Gly	Tyr	Arg	Phe											
225															

<210> 10419  
 <211> 429  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 10419

Ala	Met	Asn	Tyr	Thr	Tyr	Arg	Gln	Ile	Trp	Leu	Ile	Asn	Tyr	Pro	Val
1				5					10					15	
Met	Leu	Ser	Ile	Leu	Met	Glu	Gln	Leu	Ile	Asn	Ile	Thr	Asp	Ala	Val
		20						25					30		
Phe	Leu	Gly	His	Val	Gly	Glu	Val	Glu	Leu	Gly	Ala	Ser	Ala	Leu	Gly
		35					40					45			
Ser	Ile	Tyr	Tyr	Leu	Ala	Ile	Tyr	Met	Leu	Gly	Phe	Gly	Phe	Ser	Leu
	50					55					60				
Gly	Val	Gln	Val	Met	Val	Gly	Gln	Tyr	Asn	Gly	Lys	Gly	His	Tyr	Thr
65					70					75					80
Gly	Thr	Gly	Gly	Thr	Phe	Phe	Gln	Gly	Leu	Val	Phe	Leu	Cys	Val	Leu
				85				90						95	
Ala	Ile	Leu	Leu	Ser	Leu	Ser	Ser	Tyr	Phe	Phe	Ser	Pro	Phe	Leu	Leu
			100					105						110	

Arg Tyr Phe Val His Ser Ser Glu Ile Tyr Cys Ala Val Ile Asp Tyr  
 115 120 125  
 Leu Asp Trp Arg Cys Phe Gly Leu Leu Phe Ser Phe Pro Phe Leu Ala  
 130 135 140  
 Phe Arg Ser Phe Tyr Ile Gly Ile Val Arg Thr Asn Ala Leu Ser Trp  
 145 150 155 160  
 Ala Ala Leu Ala Ala Val Leu Ile Asn Ile Pro Cys Asn Tyr Trp Phe  
 165 170 175  
 Val Phe Val Leu Asp Arg Gly Ile Ala Gly Ala Ala Ile Ala Ser Ser  
 180 185 190  
 Leu Ser Glu Ala Ala Ser Leu Leu Ile Ile Val Val Tyr Thr Trp Leu  
 195 200 205  
 Lys Ile Asp Arg Thr Asp Phe Gly Leu Lys Phe Ile Phe Asp Lys Cys  
 210 215 220  
 Leu Leu Val Glu Leu Trp His Leu Ser Val Trp Ser Ile Leu His Ala  
 225 230 235 240  
 Phe Ile Ser Val Val Pro Trp Phe Leu Phe Phe Val Val Ile Glu Arg  
 245 250 255  
 Leu Gly Glu Ala Gln Leu Ala Val Ser Asn Ile Ile Arg Ser Val Ser  
 260 265 270  
 Thr Ile Phe Phe Val Ile Val Asn Ser Phe Ala Ala Thr Thr Gly Ala  
 275 280 285  
 Leu Val Ser Asn Leu Ile Gly Ala Gly Glu Arg Gln Tyr Leu Phe Pro  
 290 295 300  
 Leu Cys Arg Lys Ile Leu Lys Leu Gly Tyr Ala Ile Gly Leu Pro Leu  
 305 310 315 320  
 Val Val Leu Ala Met Val Phe Arg Arg Gln Ile Thr Gly Phe Tyr Thr  
 325 330 335  
 Asp Ser Ser Gln Leu Ile Asn Ile Ser Ser Ile Pro Phe Ala Val Met  
 340 345 350  
 Leu Leu Asn Tyr Val Phe Ala Leu Pro Gly Tyr Val Tyr Ile Asn Ala  
 355 360 365  
 Val Thr Gly Thr Gly Lys Thr Arg Ile Ala Phe Trp Phe Gln Leu Ile  
 370 375 380  
 Thr Ile Val Ile Tyr Leu Phe Tyr Leu Tyr Leu Leu Ser His Tyr Thr  
 385 390 395 400  
 Ala Ser Leu Ala Val Tyr Leu Thr Ala Glu Tyr Leu Phe Val Ile Leu  
 405 410 415  
 Leu Ala Val Gln Ser Val Leu Tyr Leu Arg Ile Ser Ser  
 420 425

&lt;210&gt; 10420

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10420

Val Pro Glu Gln Gln Lys Val Ala Gln Asp Phe Ala Met Ser Glu Phe  
 1 5 10 15  
 Ser Leu Ile Leu Val Leu Gln Lys Glu Asn Lys Gln Asn Ser Asn Met  
 20 25 30  
 Thr Trp Gln Lys Tyr Lys Leu Asn Leu Arg Asn Ser His Leu Leu Glu  
 35 40 45  
 Glu Phe Phe Gln Ser Trp Arg Asn Leu Thr Pro Cys Phe His Pro Leu  
 50 55 60  
 Ser Thr Gln His Trp Val Arg Asp Ala Ala Val Ser Ser Asp Ile Ser  
 65 70 75 80  
 Ser Ala Arg

<210> 10421  
 <211> 84  
 <212> PRT  
 <213> B.fragilis

<400> 10421  
 Phe Ala Tyr Lys Glu Ser Ser Val Cys Val Ala Arg Ile Arg Val Lys  
 1 5 10 15  
 Pro Leu Ser Ile Val Val Cys Ser Cys Val Ser His Pro Val Thr Val  
 20 25 30  
 Asn Val Gln Met Lys Met Met Lys Ser Thr Phe Phe Glu Phe Ile Val  
 35 40 45  
 Ala Leu Leu Asp Tyr Tyr Cys Val Ser Leu Leu Ser Phe Lys Glu Asp  
 50 55 60  
 Ile Phe Lys Ile Ser Ser Phe Pro Leu Phe Ile Lys Pro Leu Ser Pro  
 65 70 75 80  
 Asn Gln Phe Leu

<210> 10422  
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 <212> PRT  
 <213> B.fragilis

<400> 10422  
 Lys Tyr Lys Lys Met Lys Lys Leu Ile Tyr Thr Leu Cys Leu Phe Thr  
 1 5 10 15  
 Gly Met Ala Ile Ser Ser Cys Glu Asp Trp Leu Ala Arg Asp Pro Leu  
 20 25 30  
 Asp Gln Ile Ala Asp Val Asn Leu Thr Tyr Thr Ala Asp Glu Cys Lys  
 35 40 45  
 Leu Tyr Val Asn Gln Phe Tyr Thr Ser Phe Trp Gly Ser Pro Asn Asn  
 50 55 60  
 Tyr Ile Tyr His Ile Asp Arg Gly Ser Asp Asn Leu Leu Ser Asp Asn  
 65 70 75 80  
 Tyr Gln Asp Asn Lys Asp Leu Ile Glu Gly Leu His Gln Val Pro Ser  
 85 90 95  
 Ser Gly Glu Gly Trp Gly Thr Thr Glu Trp Gly Lys Ile Arg Ser Val  
 100 105 110  
 Asn Phe Leu Leu Asp Asn Cys Asp Lys Ser Pro Glu Pro Glu Lys Ala  
 115 120 125  
 Arg Lys Tyr Ile Gly Glu Ala Tyr Phe Phe Arg Ala Met Leu Tyr Tyr  
 130 135 140  
 Glu Gln Phe Leu Arg Lys Phe Gly Gly Ala Pro Trp Ile Asp Lys Thr  
 145 150 155 160  
 Leu Asp Leu Glu Ser Gly Glu Leu Tyr Gly Pro Arg Leu Lys Arg His  
 165 170 175  
 Glu Leu Ala Asp Lys Ile Leu Asn Asp Met Asp Asp Ala Ile Asp Arg  
 180 185 190  
 Leu Pro Thr Tyr Ser Gln Gln Glu Thr Gly Arg Val Ser Lys Glu Ala  
 195 200 205  
 Ala Met Leu Tyr Lys Ala Arg Ile Ala Leu Leu Ser Ser Pro Arg Gly  
 210 215 220  
 Trp Lys Glu Gln Arg Ile Ser  
 225 230

<210> 10423  
 <211> 630

6204  
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&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10423

Ile	Met	Lys	Asn	Lys	Ser	Ile	Ala	Ser	Phe	Met	Ile	Lys	Ile	Val	Met	
1				5					10					15		
Met	Pro	Leu	Leu	Phe	Thr	Ile	Ser	Cys	Val	Asn	Glu	Ile	Ser	Glu	Asp	
		20						25					30			
Pro	Val	Asp	Ile	Pro	Gly	Glu	Ile	Pro	Ile	Arg	Leu	Ser	Thr	Gln	Ile	
		35				40						45				
Leu	Cys	Asn	His	Thr	Arg	Ala	Ile	Asn	Asn	Glu	Phe	Gln	Glu	Lys	Asp	
	50				55					60						
Ala	Ile	Gly	Leu	Tyr	Val	Leu	Thr	Gln	Leu	Ser	Thr	Ile	Asn	Gln	Lys	
65					70				75						80	
Arg	Tyr	Ile	Asp	Asn	Met	Arg	Phe	Thr	Cys	Ser	Gln	Ala	Thr	Gly	Phe	
				85					90					95		
Glu	Pro	Glu	Glu	Thr	Ile	Tyr	Tyr	Pro	Lys	Gly	Asp	Gly	Lys	Cys	Asp	
		100						105					110			
Phe	Ile	Ser	Tyr	Tyr	Pro	Phe	Gln	Glu	Thr	Gly	Ile	Asn	Gln	Asp	Gln	
	115						120					125				
Ser	Ile	Met	Gln	Val	Gln	Ile	His	Thr	Asp	Gln	Ser	Ser	Val	Ser	Lys	
	130					135					140					
His	Ser	Leu	Ser	Asp	Phe	Met	Ile	Ala	Thr	Asn	Ser	Asp	Ile	Thr	Pro	
145					150					155					160	
Ser	Gln	Asn	Met	Val	Ser	Met	Glu	Tyr	Lys	His	Lys	Leu	Cys	Lys	Leu	
			165						170					175		
Lys	Ile	Thr	Ile	Lys	Pro	Ala	Pro	Gly	Glu	Asp	Ile	Asp	Glu	Leu	Leu	
		180						185					190			
Asn	Asp	Asn	Pro	Ser	Leu	Ser	Leu	Asn	Gly	Phe	His	Ser	Asp	Ala	Ser	
	195						200					205				
Tyr	Asp	Phe	Leu	Thr	Asp	Arg	Phe	Glu	Pro	Ser	Gly	Gln	Thr	Ile	Ser	
	210					215					220					
Val	Thr	Pro	His	Gly	Glu	Trp	Lys	Ile	Glu	Asn	Asn	Ala	Leu	Thr	Gly	
225					230					235					240	
Lys	Glu	Val	Ile	Leu	Ile	Pro	Glu	Lys	Ile	Glu	Ser	Asp	Asn	His	Tyr	
			245						250					255		
Ile	Asn	Ile	Asp	Ile	Asn	Gly	Lys	Ser	Tyr	Ser	Cys	Pro	Phe	Pro	Asp	
		260						265					270			
Asn	Phe	Gln	Leu	Ala	Ser	Glu	Lys	Asn	Cys	Ser	Ile	Ala	Ile	Ile	Tyr	
		275					280					285				
Lys	Ser	Ser	Glu	Gly	Ile	Gln	Ile	Asn	Asn	Phe	Asp	His	Ser	Ile	Thr	
	290					295					300					
Asp	Trp	Thr	Glu	Gly	Asp	Ser	Gly	Glu	Thr	Thr	Ala	Gln	Glu	Thr	Ser	
305					310					315					320	
Gly	Val	Ile	His	Leu	Ser	Ala	Leu	Lys	Phe	Ser	Lys	Ser	Asn	Val	Tyr	
			325						330					335		
Lys	Ala	Ile	Asn	Glu	Gly	Thr	Gln	Val	Ala	Glu	Ile	Cys	Lys	Glu	Tyr	
			340					345					350			
Leu	Leu	Ala	Asp	Asn	Ile	Asp	Ala	Gln	Ala	Ile	Val	Val	Tyr	Pro	Val	
		355					360					365				
Leu	Asn	Gly	Ala	Thr	Asp	Leu	Asn	Asn	Gly	Thr	Val	Ile	Cys	Leu	Leu	
	370					375					380					
Asp	Glu	Pro	Ala	Ser	Ile	His	Gly	Gly	Lys	Val	Ser	Trp	Asn	Lys	Val	
385					390					395					400	
Asn	Asn	Ala	Leu	Asp	Tyr	Thr	Pro	Gly	Asn	Gln	Ser	Ile	Ile	Ser	Asp	
			405						410				415			
Phe	Tyr	Ile	Thr	Gln	Asp	Asn	Ser	Ile	Ser	Ile	Ser	Lys	Pro	Glu	Asn	
			420					425					430			
Pro	Leu	Pro	Val	Arg	Leu	Gln	Glu	Glu	Val	Leu	Thr	Asp	Ile	Arg	Asn	

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435	440	445
Thr Glu Thr Gln Thr Tyr Pro Ile Val Lys Ile Gly Ile Gln Tyr Trp		
450	455	460
Met Gly Arg Ser Leu Glu Ala Thr His Tyr Thr Asp Gly Lys Ala Ile		
465	470	475
Thr Leu Lys Lys Asp Phe Thr Thr Thr Ala Gly Tyr Tyr Thr Gly Lys		
485	490	495
Phe Lys Asp Ala Pro Gln Asp Phe Tyr Phe Tyr Asn Ser Glu Ala Val		
500	505	510
Ile Ser Gly Lys Leu Ser Pro Gln Gly Trp Ser Ile Pro Thr Glu Thr		
515	520	525
Glu Trp Glu Leu Leu Lys Gln Tyr Ile Asn Asn Asp Ala Ser Lys Leu		
530	535	540
Lys Phe Gly Pro Trp Ser Ser Asp Glu Asn Gly Asp Lys Leu Pro Ile		
545	550	555
Leu Asn Ile Thr Gly Phe Asn Gly Val Pro Glu Gly Tyr Ile Leu Lys		
565	570	575
Ser Lys Asn Gly Tyr Thr Asn Gly Leu Tyr Thr Val Val Tyr Trp Ser		
580	585	590
Thr Asn Ser Ser Gly Asn Gln Thr Asn Arg Ala Ile Tyr Leu Leu His		
595	600	605
Thr Thr Asn Glu Ile Lys Asp Gly Asn Ile Thr Asp Arg Ala Leu Ser		
610	615	620
Val Arg Cys Ile Arg Lys		
625	630	

&lt;210&gt; 10424

&lt;211&gt; 277

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10424

Gln Ile Leu Lys Gln Thr Val Tyr Val Ser Ile Asn Pro Gln Asn His		
1	5	10
Pro Ile Met Asn Arg Phe Glu Asn Lys Ile Ile Ile Ile Thr Gly Ala		
20	25	30
Ala Gly Gly Ile Gly Ala Ser Thr Thr Arg Arg Ile Val Ser Glu Gly		
35	40	45
Gly Lys Val Ile Ile Ala Asp Tyr Ser Arg Glu Lys Ala Asp Gln Phe		
50	55	60
Ala Ala Glu Leu Ser Asn Ser Gly Ala Asp Val Arg Pro Val Tyr Phe		
65	70	75
Ser Ala Thr Glu Leu Lys Ser Cys Lys Glu Leu Ile Thr Phe Thr Met		
85	90	95
Lys Glu Tyr Gly Gln Ile Asp Val Leu Val Asn Asn Val Gly Gly Thr		
100	105	110
Asn Pro Arg Arg Asp Thr Asn Ile Glu Thr Leu Asp Met Asp Tyr Phe		
115	120	125
Asp Glu Ala Phe His Leu Asn Leu Ser Cys Thr Met Tyr Leu Ser Gln		
130	135	140
Leu Val Ile Pro Ile Met Ser Ala Gln Gly Gly Gly Asn Ile Val Asn		
145	150	155
Val Ala Ser Ile Ser Gly Ile Thr Ala Asp Ser Asn Gly Thr Leu Tyr		
165	170	175
Gly Ala Ser Lys Ala Gly Val Ile Asn Leu Thr Lys Tyr Ile Ala Thr		
180	185	190
Gln Thr Gly Lys Lys Asn Ile Arg Cys Asn Ala Val Ala Pro Gly Leu		
195	200	205
Ile Leu Thr Pro Ala Ala Leu Asn Asn Leu Asn Glu Glu Val Arg Lys		

10424  
 277  
 PRT  
 B.fragilis  
 10424

210		215		220
Ile Phe Leu Gly Gln Cys	Ala Thr Pro Tyr	Leu Gly Glu Pro Gln Asp		
225	230	235	240	
Val Ala Ala Thr Ile Ala	Phe Leu Ala Ser	Glu Asp Ala Arg Tyr Ile		
	245	250	255	
Thr Gly Gln Thr Ile Val	Val Asp Gly Gly	Leu Thr Ile His Asn Pro		
	260	265	270	
Thr Ile Asn Leu Val				
275				

&lt;210&gt; 10425

&lt;211&gt; 71

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10425

Asn Lys Thr Lys Gln Ala	Phe Ser Ile Pro Leu Tyr	Asn Lys Cys Asn
1	5	10 15
Arg Thr Ile Ala Lys Val	Thr Tyr Thr Ile Glu Lys Tyr	Asn Ile His
	20	25 30
Ser Asn Ile Leu Asn Asp	Gly Ser Leu Glu Cys Thr	Gly Gln His Ile
	35	40 45
Ile Ile Ser Val Ala Val	Phe Ser Phe Phe Pro Tyr	Phe Leu His Leu
	50	55 60
Phe Tyr Lys Cys Phe His	Leu	
65	70	

&lt;210&gt; 10426

&lt;211&gt; 320

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10426

Phe Ile Asp Asp Phe Glu	Ser Lys Met Ile Phe Ile	Leu Leu Leu Val
1	5	10 15
Gln Tyr Gln Arg Ser Ile	Ser Leu Phe Tyr Leu Leu	Ile Ile Lys Gly
	20	25 30
Asn Ile Met Lys Lys Asn	Leu Leu Val Gly Ala	Leu Val Ser Ala
	35	40 45
Phe Leu Leu Ala Ser Cys	Ser Gly Gly Asp Lys Ser	Lys Ala Pro Val
	50	55 60
Val Ser Thr Ala Asp Ile	Glu Asn Ala Ala Glu Val	Ile Lys Tyr Tyr
	65	70 75 80
Asn Thr Ser Leu Gly Val	Leu Lys Asp Met Val Lys	Glu Lys Asp Val
	85	90 95
Asn Ala Val Leu Asp Tyr	Met Glu Gln Lys Gly Lys	Ala Pro Ala Leu
	100	105 110
Ser Ala Ile Val Pro Pro	Ala Val Val Ser Lys Asp	Ser Ala Ile Val
	115	120 125
Leu Asn Pro Gly Asn Cys	Phe Asn Glu Glu Thr Arg	Gln Asn Leu Lys
	130	135 140
Gln Asn Tyr Thr Gly Leu	Phe Gln Ala Arg Thr Glu	Phe Tyr Ala Asn
	145	150 155 160
Phe Asp Thr Tyr Leu Ser	Tyr Leu Lys Lys Asp Val	Thr Asn Ala
	165	170 175
Lys Lys Leu Leu Asp Val	Asn Tyr Gln Leu Ser Thr	Gln Met Ser Glu
	180	185 190
Tyr Lys Gln Asn Ile Phe	Asp Ile Leu Ser Pro Phe	Thr Glu Gln Ala
	195	200 205

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Glu Leu Val Leu Leu Val Asp Asn Pro Leu Lys Ala Gln Ile Met Ser  
 210 215 220  
 Val Arg Lys Met Ser Ser Thr Met Gln Ser Ile Leu Asn Leu Tyr Ala  
 225 230 235 240  
 Arg Lys His Arg Met Asp Gly Pro Arg Ile Asp Leu Lys Val Ala Glu  
 245 250 255  
 Leu Thr Gln Gln Leu Asp Ala Ala Lys Lys Leu Pro Val Val Asn Gly  
 260 265 270  
 His Glu Gly Glu Met Lys Ser Tyr Gln Ala Phe Leu Ser Gln Val Glu  
 275 280 285  
 Thr Phe Ile Lys Gln Val Lys Lys Val Arg Glu Lys Gly Glu Tyr Ser  
 290 295 300  
 Asp Ala Asp Tyr Asp Met Leu Thr Ser Ala Phe Glu Thr Ser Ile Ile  
 305 310 315 320

<210> 10427

<211> 90

<212> PRT

<213> B.fragilis

<400> 10427

Lys Arg Ala Glu Gly Phe Gly Leu Lys Ser Leu Leu Leu Thr Pro Leu  
 1 5 10 15  
 Gln Pro Pro Val Lys Thr Phe Ser Tyr Met Leu Phe Val Leu Ile Tyr  
 20 25 30  
 Phe Pro Cys Ile Ala Thr Leu Val Ala Ile Lys Gln Glu Ser Gly Ser  
 35 40 45  
 Trp Lys Trp Ala Ile Phe Thr Ala Gly Tyr Thr Thr Ala Leu Ala Trp  
 50 55 60  
 Leu Val Ser Phe Ala Val Tyr Gln Ile Gly Gly Met Phe Ser Pro Ile  
 65 70 75 80  
 Ala Trp Met Ser Asn Leu Leu Met Met Val  
 85 90

<210> 10428

<211> 156

<212> PRT

<213> B.fragilis

<400> 10428

Arg Asn Met Asp Lys Val Ile Ile Asn Ser Tyr Glu Asp Phe Glu Lys  
 1 5 10 15  
 Leu Ile Gly Gln Gln Ile Gly Val Ser Asp Tyr Leu Glu Val Ser Gln  
 20 25 30  
 Glu Arg Ile Asn Leu Phe Ala Asp Ala Thr Leu Asp His Gln Trp Ile  
 35 40 45  
 His Val Asp Thr Glu Arg Ala Lys Val Glu Ser Pro Tyr His Ser Thr  
 50 55 60  
 Ile Val His Gly Tyr Leu Thr Leu Ser Leu Leu Pro His Leu Trp Asn  
 65 70 75 80  
 Gln Ile Ile Glu Val Asn Asn Leu Lys Met Met Ile Asn Tyr Gly Met  
 85 90 95  
 Asp Lys Met Lys Phe Gly Gln Ala Val Leu Ser Gly Gln Ser Val Arg  
 100 105 110  
 Leu Lys Ala Ser Leu His Ser Leu Thr Asn Leu Arg Gly Val Ala Lys  
 115 120 125  
 Ala Glu Ile Lys Phe Ala Ile Glu Ile Lys Asp Gln Pro Lys Lys Ala  
 130 135 140  
 Leu Glu Gly Ile Ala Ile Phe Leu Tyr Tyr Phe Asn

145

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<210> 10429  
 <211> 286  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 10429

Ile	Met	Glu	Gly	Lys	Lys	Thr	Thr	Gln	Glu	Glu	Tyr	Gln	Lys	Cys	Val
1				5					10					15	
Asn	Ala	Val	Val	Asp	Tyr	Ile	Asn	Leu	His	Leu	Gly	Glu	Glu	Ile	Asp
			20					25					30		
Leu	Lys	Ser	Leu	Ala	Arg	Ile	Ser	His	Phe	Ser	Pro	Phe	Tyr	Phe	His
		35					40					45			
Arg	Ile	Met	Lys	Ala	Phe	Leu	Gly	Glu	Pro	Ile	Gly	Thr	Phe	Ile	Val
	50					55					60				
Arg	Thr	Arg	Thr	Glu	Ala	Ala	Ala	Arg	Leu	Leu	Arg	Tyr	Ser	Ser	Thr
65				70					75						80
Ser	Ile	Ser	Asp	Ile	Ala	Tyr	Arg	Ile	Gly	Tyr	Ala	Ser	Pro	Ser	Ser
			85						90					95	
Phe	Ser	Lys	Ile	Phe	Lys	Gln	Met	Tyr	Gly	Ile	Ser	Pro	Thr	Glu	Tyr
		100						105					110		
Arg	Asn	Asn	Lys	Asn	Tyr	Val	Ile	Met	Lys	Pro	Ala	Ile	Ile	Lys	Pro
	115						120						125		
Asp	Leu	Glu	Leu	Lys	Lys	Glu	Ile	Arg	Glu	Leu	Pro	Gln	Arg	Asn	Val
	130					135					140				
Ile	Tyr	Ile	Arg	Leu	Phe	Gly	Asp	Tyr	Lys	Leu	Asn	Asp	Tyr	Ala	Gly
145				150						155					160
Thr	Trp	Met	His	Leu	Ile	Gln	Phe	Val	Lys	Glu	Gln	Asn	Leu	Pro	Met
			165						170					175	
Gly	Asp	Pro	Ser	Pro	Leu	Cys	Ile	Tyr	His	Asp	Asp	Pro	Lys	Val	Thr
		180						185					190		
Pro	Thr	Asp	Lys	Leu	Arg	Thr	Asp	Val	Cys	Met	Leu	Leu	Pro	Ser	Asn
		195					200					205			
Ala	Arg	Pro	Lys	Gly	Asn	Val	Gly	Phe	Lys	Gln	Leu	Pro	Ala	Gly	Arg
	210					215					220				
Tyr	Ala	Thr	Phe	Leu	Tyr	Lys	Gly	Ser	Tyr	Asp	Gln	Leu	Gln	Ala	Val
225					230					235					240
Tyr	Asp	Thr	Ile	Tyr	Gly	Lys	Tyr	Leu	Pro	Glu	Met	Glu	Cys	Thr	Leu
			245						250					255	
Ser	Asp	Glu	Pro	Ser	Ala	Glu	Arg	Tyr	Leu	Asn	Asp	Pro	Ser	Cys	Thr
		260						265					270		
Pro	Pro	Glu	Glu	Leu	Leu	Thr	Glu	Ile	Tyr	Ile	Pro	Ile	Arg		
		275					280					285			

<210> 10430  
 <211> 134  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 10430

Asn	Ile	Arg	Met	Asn	Val	Ile	Leu	Phe	Asp	Gly	Ile	Cys	Asn	Leu	Cys
1				5					10					15	
Asn	Gly	Ala	Val	Thr	Phe	Val	Val	Lys	Arg	Asp	Arg	Lys	Gly	Leu	Phe
			20					25					30		
Arg	Phe	Val	Ser	Leu	Gln	Ser	Glu	Thr	Gly	Lys	Ser	Leu	Leu	Lys	Arg
		35					40					45			
Tyr	Ala	Val	Glu	Ser	Thr	Asn	Lys	Thr	Leu	Tyr	Tyr	Phe	Arg	Asn	Asn
	50					55					60				

Arg Cys Tyr Ser Lys Ser Thr Ala Ile Leu Tyr Ile Leu Lys Asp Leu  
 65 70 75 80  
 Gly Gly Phe Trp Gln Cys Leu Tyr Pro Leu Ile Leu Ile Pro Ala Lys  
 85 90 95  
 Leu Arg Asp Ala Ile Tyr Leu Leu Val Ser Lys Tyr Arg Tyr Arg Ile  
 100 105 110  
 Phe Gly Lys Ala Asp Ser Cys Ile Lys Pro Phe Gly Phe Ser Ser Glu  
 115 120 125  
 Glu Ser Lys Arg Ser Asp  
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&lt;210&gt; 10431

&lt;211&gt; 245

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10431

Lys Asn Asn Val Leu Gly Lys Phe Ile Leu Asp Phe Phe Asn Ile Phe  
 1 5 10 15  
 Val Glu Ile Lys Ser Tyr Leu Asn Thr Met Asn Val Lys Ile Glu Ser  
 20 25 30  
 Ser Trp Gln Gln Arg Leu Gln Glu Phe Asp Lys Pro Tyr Phe Glu  
 35 40 45  
 Lys Leu Val Asn Phe Val Lys Asn Glu Tyr Gly Lys Ala His Ile Leu  
 50 55 60  
 Pro Pro Gly His Gln Ile Phe His Val Phe Asn Ser Cys Pro Phe Gln  
 65 70 75 80  
 Asn Val Lys Val Val Ile Leu Gly Gln Asp Pro Tyr Pro Asn Pro Gly  
 85 90 95  
 Gln Tyr Tyr Gly Ile Cys Phe Ser Val Pro Asp Gly Val Ala Ile Pro  
 100 105 110  
 Gly Ser Leu Ser Asn Ile Phe Lys Glu Ile His Gln Asp Leu Gly Lys  
 115 120 125  
 Pro Leu Pro Asn Ser Gly Asn Leu Asp Arg Trp Val Lys Gln Gly Val  
 130 135 140  
 Phe Pro Met Asn Ser Val Leu Thr Val Arg Ala His Glu Thr Gly Ser  
 145 150 155 160  
 His Arg Asn Ile Gly Trp Glu Thr Phe Thr Asp Ala Val Ile Lys Lys  
 165 170 175  
 Leu Ser Glu Glu Arg Glu Asn Leu Val Phe Met Leu Trp Gly Ser Tyr  
 180 185 190  
 Ala Lys Glu Lys Ala Ser Leu Ile Asp Thr Asp Lys His Leu Ile Leu  
 195 200 205  
 Thr Ala Val His Pro Ser Pro Arg Ser Ala Asp Tyr Gly Phe Phe Gly  
 210 215 220  
 Cys Lys His Phe Ser Lys Ala Asn Thr Phe Leu Arg Ser Arg Gly Ile  
 225 230 235 240  
 Glu Glu Ile Asp Trp  
 245

&lt;210&gt; 10432

&lt;211&gt; 1062

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10432

Lys Ile Asn Val Phe Leu Ile Lys Val Ser Ile Met Lys Ile Lys Lys  
 1 5 10 15  
 His Ile Leu Ile Pro Leu Met Val Leu Leu Leu Phe Gly Ser Met Asp

20							25					30				
Ala	Met	Ala	Ala	Ile	Glu	Gln	Ala	Ile	Gln	Val	Lys	Gly	Lys	Val	Val	
		35					40					45				
Asp	Asn	Ile	Gly	Glu	Pro	Val	Ile	Gly	Ala	Asn	Val	Val	Val	Lys	Gly	
		50					55					60				
Thr	Thr	Thr	Gly	Val	Ile	Thr	Ser	Ile	Asp	Gly	Ser	Phe	Ala	Ile	Asp	
65							70					75				
Ala	Val	Lys	Gly	Ser	Thr	Ile	Val	Val	Ser	Phe	Ile	Gly	Tyr	Leu	Ser	
						85					90					
Gln	Glu	Val	Lys	Val	Thr	Gly	Asn	Phe	Leu	Asn	Ile	Thr	Leu	Glu	Asn	
						100					105					
Asn	Thr	Glu	Leu	Leu	Asp	Glu	Val	Val	Val	Val	Gly	Tyr	Gly	Val	Gln	
						115					120					
Lys	Lys	Ala	Asn	Leu	Thr	Gly	Ala	Ile	Ala	Thr	Val	Gly	Ala	Lys	Glu	
						130					135					
Leu	Glu	Asp	Arg	Pro	Val	Thr	Asn	Ala	Ala	Ala	Ala	Leu	Gln	Gly	Lys	
145							150					155				
Val	Ala	Asn	Leu	Asn	Ile	Ser	Asn	Gly	Asp	Gly	Gly	Pro	Gly	Lys	Lys	
						165					170					
Ala	Ser	Phe	Asn	Ile	Arg	Gly	Tyr	Ala	Gly	Leu	Asp	Ala	Thr	Tyr	Ser	
						180					185					
Pro	Leu	Val	Ile	Ile	Asp	Gly	Val	Thr	Gly	Tyr	Phe	Asp	Asp	Leu	Asn	
						195					200					
Pro	Asn	Asp	Ile	Glu	Thr	Leu	Thr	Val	Leu	Lys	Asp	Ala	Ala	Ala	Ser	
						210					215					
Ala	Ile	Tyr	Gly	Ala	Gln	Ala	Ala	Tyr	Gly	Val	Ile	Leu	Val	Thr	Thr	
225							230					235				
Lys	Ser	Gly	Lys	Lys	Asn	Glu	Lys	Thr	Val	Ile	Asn	Tyr	Asn	Asn	Asn	
						245					250					
Phe	Ser	Phe	Asn	Ser	Pro	Thr	Val	Leu	Pro	Lys	Thr	Pro	Gly	Ser	Leu	
						260					265					
Glu	Phe	Ser	Arg	Leu	Phe	Arg	Glu	Ala	Asp	Ile	Asn	Gly	Gly	Gly	Ser	
						275					280					
Gly	Ile	Ile	Asp	Leu	Glu	Thr	Met	Glu	Arg	Ile	Glu	Lys	Tyr	Tyr	Tyr	
						290					295					
Asp	Pro	Thr	Ser	Ile	Pro	Asn	Asn	Val	Pro	Gln	Arg	Asp	Asn	Pro	Asp	
305							310					315				
Arg	Trp	Ala	Asp	Trp	Gly	Asp	Gly	Arg	Ser	Asn	Ala	Asn	Glu	Asp	Trp	
						325					330					
Gln	Lys	Ala	Met	Phe	Lys	Asn	Asn	Gln	Leu	Asn	Gln	Gln	His	Asn	Ile	
						340					345					
Ser	Ile	Arg	Gly	Gly	Ser	Asp	Lys	Thr	Thr	Tyr	Val	Met	Ser	Leu	Gly	
						355					360					
Tyr	Leu	Lys	Asp	Glu	Gly	Lys	Leu	Arg	Tyr	Tyr	Asp	Asp	His	Tyr	Gln	
						370					375					
Arg	Tyr	Asn	Ala	Leu	Ala	Lys	Ile	Thr	Thr	Asp	Val	Thr	Lys	Trp	Leu	
385							390					395				
Thr	Val	Gly	Leu	Asn	Val	Arg	Tyr	Ser	His	Glu	Lys	Ser	Val	Ser	Pro	
						405					410					
Ala	Tyr	Gly	Met	Asn	Pro	Gly	Gly	Ser	Val	Asn	Asp	Met	Ile	Gly	Trp	
						420					425					
Thr	Gln	Val	Val	Trp	Pro	Thr	Ile	Pro	Val	Arg	Asp	Pro	Asn	Gly	His	
						435					440					
Phe	Ser	Pro	Ala	Gly	Arg	Met	Val	Phe	Ile	Ala	Asp	Ala	Asn	Pro	Gln	
						450					455					
Thr	Ser	Tyr	Thr	Asp	Asn	Phe	Trp	Gly	Thr	Ala	Asn	Val	Val	Ile	Lys	
465							470					475				
Pro	Leu	Lys	Gly	Trp	Thr	Ile	Asn	Ala	Asp	Phe	Thr	Tyr	Asn	Lys	Trp	
						485					490					

Met	Asn	Lys	Arg	Ser	Tyr	Ser	Lys	Gly	Leu	Ile	Tyr	Ser	Tyr	Ser	Val
			500					505					510		
Ser	Asn	Glu	Pro	Tyr	Leu	Glu	Gly	Gly	Phe	Gly	Thr	Glu	Asp	Thr	Arg
		515					520					525			
Val	Trp	Gln	Glu	Ser	Asn	Asn	Asp	Asp	Phe	Thr	Ser	Met	Asn	Ala	Tyr
	530					535					540				
Thr	Thr	Tyr	Glu	Lys	Glu	Phe	Lys	Gly	His	Asn	Phe	Lys	Ile	Met	Ala
545					550				555					560	
Gly	Met	Gln	Ser	Glu	Tyr	Lys	Lys	Asn	Phe	Gly	Leu	Tyr	Ala	Asn	Lys
			565					570						575	
Met	Gly	Met	Val	Leu	Pro	Gly	Gln	Pro	Ser	Ile	Ser	Thr	Ser	Thr	Gly
			580					585					590		
Lys	Ile	Glu	Ala	Trp	Asp	Ser	Leu	Asp	His	Tyr	Ala	Thr	Leu	Gly	Phe
		595					600					605			
Phe	Gly	Arg	Phe	Asn	Tyr	Asp	Tyr	Lys	Ser	Arg	Tyr	Leu	Phe	Glu	Phe
	610					615					620				
Asp	Leu	Arg	Arg	Asp	Gly	Ser	Ser	Arg	Tyr	Ala	Lys	Gly	His	Gln	Trp
625					630					635					640
Gly	Thr	Phe	Pro	Ala	Phe	Ser	Ala	Gly	Trp	Asn	Val	Ala	Lys	Glu	Ala
			645					650						655	
Phe	Phe	Glu	Pro	Tyr	Thr	Ser	Ile	Leu	Ser	Glu	Leu	Arg	Leu	Arg	Gly
			660					665					670		
Ser	Trp	Gly	Glu	Leu	Gly	Asn	Met	Arg	Gly	Lys	Asn	Tyr	Gln	Tyr	Ile
		675					680					685			
Ser	Thr	Val	Pro	Tyr	Asn	Ala	Thr	Thr	Asp	Tyr	Ile	Met	Gly	Asp	Lys
	690					695					700				
Arg	Ile	Ser	Ala	Phe	Gly	Ala	Pro	Asn	Met	Ile	Ala	Tyr	Asn	Thr	Trp
705					710					715					720
Glu	Lys	Asn	Arg	Thr	Leu	Asp	Phe	Gly	Val	Asp	Ile	Ala	Ala	Leu	Asn
			725					730						735	
Asn	Arg	Leu	Thr	Met	Ser	Phe	Asp	Trp	Tyr	Arg	Arg	Asp	Ile	Ile	Gly
			740					745					750		
Leu	Ile	Thr	Lys	Gly	Val	Thr	Leu	Pro	Ala	Val	Leu	Gly	Val	Asn	Ser
		755					760					765			
Pro	Asp	Thr	Asn	Asn	Ala	Asp	Ile	Arg	Asn	Glu	Gly	Trp	Glu	Leu	Thr
	770					775					780				
Leu	Gly	Trp	Arg	Asp	Gln	Phe	Ser	Leu	Ala	Ser	Lys	Ser	Phe	Asn	Tyr
785					790					795					800
Ser	Val	Ser	Phe	Asn	Leu	Ser	Asp	Tyr	Gln	Gly	Thr	Val	Leu	Lys	Tyr
			805					810						815	
Ser	Asn	Pro	Lys	Gly	Leu	Ile	Tyr	Asp	Tyr	Tyr	Val	Gly	Lys	Lys	Met
		820						825					830		
Gly	Thr	Ile	Trp	Gly	Tyr	Thr	Thr	Asp	His	Ile	Met	Thr	Asp	Pro	Ala
		835					840					845			
Glu	Ala	Lys	Ala	Ile	Asn	Asp	Ser	Gly	Val	Gln	Asn	Lys	Phe	Gly	Gly
	850					855					860				
Asp	Trp	Val	Val	Gly	Asp	Ile	Lys	Tyr	Val	Asn	Leu	Asp	Asp	Asp	Pro
865					870					875					880
Asn	Ile	Asn	Asp	Gly	Asn	Gln	Thr	Leu	Glu	Asp	His	Gly	Asp	Leu	Ser
			885					890						895	
Ile	Ile	Gly	Asn	Asp	Thr	Pro	Arg	Tyr	Asn	Phe	Gly	Phe	Gly	Phe	Asn
		900						905					910		
Ala	Asp	Trp	Asn	Gly	Ile	Asp	Phe	Ser	Met	Phe	Leu	Gln	Gly	Thr	Met
	915						920						925		
Lys	Arg	Asp	Leu	Trp	Leu	Glu	Gly	Pro	Val	Ala	Phe	Gly	Leu	Gly	Gly
	930					935					940				
Gly	Gln	Trp	Gly	Ser	Asn	Val	Trp	Lys	Asn	Thr	Leu	Asp	Cys	Trp	Arg
945					950					955					960
Glu	Asp	Gly	Ser	Asn	Pro	Asp	Pro	Trp	Leu	Pro	Arg	Leu	Tyr	Leu	Trp

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965 970 975  
 Ser Thr Ser Lys Asn Leu Gln Lys Gln Thr Arg Tyr Met Asp Thr Gly  
 980 985 990  
 Ala Tyr Cys Arg Leu Lys Asn Ile Gln Leu Gly Tyr Ser Leu Pro Gly  
 995 1000 1005  
 Ala Ile Ile Asn Lys Val Gly Leu Glu Lys Val Arg Ile Tyr Phe Ser  
 1010 1015 1020  
 Gly Asp Asn Leu Leu Thr Phe Ser Gly Ile Asn Glu Asn Phe Asp Pro  
 1025 1030 1035 1040  
 Glu Ala Pro Trp Gly Gly Ala Tyr Pro Ile Ser Lys Ser Ile Ser Phe  
 1045 1050 1055  
 Gly Val Asn Val Thr Phe  
 1060

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 <212> PRT  
 <213> B.fragilis

<400> 10433  
 Arg His Pro Val Arg Pro His Ser Ile Leu Val Glu Lys Trp Glu Gly  
 1 5 10 15  
 Lys Cys Tyr Arg Leu Val Ile Gln Arg Gln Arg Arg Asn Ser Gly Asp  
 20 25 30  
 Leu Asp Leu Trp Glu Gly Glu Tyr Thr Tyr Arg Cys Ile Leu Thr Asn  
 35 40 45  
 Asp Tyr Lys Ser Ser Thr Arg Asp Ile Ala Glu Phe Tyr Asn Leu Arg  
 50 55 60  
 Gly Gly Lys Glu Arg Ile Phe Asp Asp Met Asn Asn Gly Phe Ser Trp  
 65 70 75 80  
 Ser Arg Leu Pro Lys Ser Phe Met Ala Glu Asn Thr Val Phe Leu Leu  
 85 90 95  
 Leu Thr Ala Leu Tyr Thr Ile Tyr Tyr  
 100 105

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 Lys Met Lys Val Met Lys Asp Tyr Lys Leu Met Ala Val Gly Gln Ile  
 1 5 10 15  
 Val Ala Asp Cys Phe Asp Tyr Ala Lys Val Phe Asn Lys Tyr Gly Ile  
 20 25 30  
 Asp Phe Cys Cys Asn Gly Asp Val Ser Leu Ala Asp Ala Cys Gly Lys  
 35 40 45  
 Met Gly Ile Asp Ala Asp Cys Leu Leu Glu Glu Leu Lys Gln Ile Lys  
 50 55 60  
 Ser Glu Gln Ser Leu Thr Leu Asp Phe Lys Ser Trp Pro Ile Asp Leu  
 65 70 75 80  
 Leu Val Asp Tyr Ile Leu Lys Phe His His Arg Asn Ile Arg Tyr Gln  
 85 90 95  
 Gly Pro Gln Ile Leu Gln Leu Leu Asp Arg Val Cys Glu Ala His Ala  
 100 105 110  
 Arg Lys His Pro Glu Leu Tyr Glu Val Arg Glu Leu Phe Gln Glu Ser  
 115 120 125  
 Trp Ile Asp Leu Asn Asn His Leu Thr Lys Glu Glu Met Val Leu Phe  
 130 135 140

Pro Tyr Ile Tyr Asp Leu Phe Asp Ala Val Ala Gln His Arg Pro Ile  
 145 150 155 160  
 Pro Ala Phe His Cys Gly Ser Val Ser Ser Pro Ile Ser Val Met Met  
 165 170 175  
 Ser Glu His Asp Ala Glu Gly Glu Arg Phe Arg Arg Ile Ser Gly Leu  
 180 185 190  
 Thr His Gly Tyr Leu Val Pro Gly Asp Ala Cys Ser Ser Tyr Arg Leu  
 195 200 205  
 Leu Leu Glu Met Leu Arg Thr Phe Glu Asp Asn Leu His His His Ile  
 210 215 220  
 His Leu Glu Asn Asn Ile Val Phe Pro Lys Ala Ile Glu Leu Gln Glu  
 225 230 235 240  
 Asn Cys Glu Arg Met Cys  
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 Phe Glu Lys Asn Gly Leu Asn Leu Arg Leu Ser Tyr Asn Phe Ala Ser  
 1 5 10 15  
 Ala Phe Ile Asp Gly Met Gly Glu Asp Thr Phe His Asp Arg Tyr Tyr  
 20 25 30  
 Asp Arg Val Asn Tyr Leu Asp Val Asn Ala Ser Tyr Thr Phe Ala Lys  
 35 40 45  
 His Tyr Thr Leu Tyr Ala Glu Ser Asn Asn Leu Val Glu Thr Pro Leu  
 50 55 60  
 Arg Phe Tyr  
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<210> 10436  
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 Arg Leu Ser Val Met Gly Gly His Leu Tyr Ala Asp Glu Lys Ala Asn  
 1 5 10 15  
 Val Val Lys Gln Gly Thr Ile Arg Gly Arg Ile Ile Asp Thr Ser Lys  
 20 25 30  
 Gln Thr Leu Pro Gly Ala Ser Ile Tyr Ile Glu Asn Leu Lys Thr Gly  
 35 40 45  
 Val Ile Ser Asp Val Asn Gly Phe Tyr Thr Phe Ala Asn Leu Asn Pro  
 50 55 60  
 Gly Thr Tyr Thr Val Lys Val Thr Tyr Val Gly Tyr Ala Pro Val Glu  
 65 70 75 80  
 Met Lys Ile Thr Ile Pro Glu Gly Lys Thr Leu Glu Arg Asp Val Ile  
 85 90 95  
 Leu Asn Glu Gly Val Glu Leu Gln Glu Ile Val Ile Gly Gly Ala Phe  
 100 105 110  
 Gln Gly Gln Arg Arg Ala Ile Asn Ser Gln Lys Ser Ser Leu Gly Ile  
 115 120 125  
 Lys Asn Val Val Ser Ala Asp Gln Val Gly Lys Phe Pro Asp Ser Asn  
 130 135 140  
 Ile Gly Asp Ala Leu Lys Arg Ile Ser Gly Ile Asn Val Gln Tyr Asp  
 145 150 155 160  
 Gln Gly Glu Ala Arg Phe Gly Gln Val Arg Gly Thr Ser Ala Asp Leu

6214 6214 6214 6214

[illegible]

Leu Leu Met Lys Trp Asn Val Asn Glu Asp Phe Lys Val Arg Gly Ser  
 645 650 655  
 Phe Thr Gln Thr Leu Ser Arg Pro Lys Tyr Ser Ala Leu Val Pro Ser  
 660 665 670  
 Val Asn Ile Lys Arg Ser Asp Asn Glu Val Thr Val Gly Asn Pro Gly  
 675 680 685  
 Leu Lys Pro Thr Leu Ser Tyr Asn Phe Asp Leu Ser Ala Asp Tyr Tyr  
 690 695 700  
 Phe Lys Ser Ile Gly Leu Val Ser Ala Gly Val Phe Tyr Lys Lys Ile  
 705 710 715 720  
 Asp Asp Phe Ile Val Asn Gln Val Ser Thr Asn Tyr Glu Tyr Asn Gly  
 725 730 735  
 Asn Leu Tyr Asn Arg Phe Ile Gln Pro Lys Asn Ala Gly Asn Ala Asn  
 740 745 750  
 Leu Ile Gly Met Glu Leu Ser Tyr Gln Arg Asp Phe Gly Phe Ile Ala  
 755 760 765  
 Pro Ala Leu Lys Cys Ile Gly Phe Tyr Gly Thr Tyr Thr Phe Thr His  
 770 775 780  
 Ser Arg Val Glu Asp Phe Asn Phe Glu Gly Arg Glu Asn Glu Lys Asp  
 785 790 795 800  
 Leu Ser Leu Pro Gly Ser Pro Lys His Thr Ala Asn Ala Ser Leu  
 805 810 815

&lt;210&gt; 10437

&lt;211&gt; 74

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10437

Phe Leu Val Leu Met Glu Leu Gly Lys Tyr Pro Gly Arg Gly Val Lys  
 1 5 10 15  
 Ala Lys Arg Ile Lys Thr Val Glu Ile Asn His Leu Ile Asn Tyr Lys  
 20 25 30  
 Tyr Gly Lys Ser Lys Leu Val Gln Cys Lys Pro His Val Gly Gln Glu  
 35 40 45  
 Arg Trp Arg Phe Asp Asn Gln Cys Gly Cys Ser His Arg Thr Cys Ser  
 50 55 60  
 Thr Lys Tyr Ser Ser Tyr Arg Asn Ser Gly  
 65 70

&lt;210&gt; 10438

&lt;211&gt; 134

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 10438

Arg Leu Pro Leu Arg Lys Gly Arg Pro Cys Gln Val Lys Leu Arg Ser  
 1 5 10 15  
 Leu Lys Leu Leu Gln Pro Tyr Asp Leu Asp Lys Glu Gln Glu Leu Val  
 20 25 30  
 Pro Met Thr Pro Gln Gln Ala Thr Trp Lys Val Phe Thr Tyr Phe Asp  
 35 40 45  
 Arg Asp Met Glu Leu Arg Val Gln Glu Leu Arg Glu Gln Pro Gly Ile  
 50 55 60  
 Ile Arg Val Asp Val Val Ala Lys Glu Val Leu Thr Arg Pro Glu Glu  
 65 70 75 80  
 Gly Asp Phe Asp Met Tyr Pro Pro Pro Ser Leu Gln Asp Val Ala Asp  
 85 90 95  
 Arg Arg Lys Ile Met Tyr Thr Tyr Lys Gly Lys Leu Lys Tyr Arg Pro

	100		105		110										
Tyr	Pro	Pro	Gly	Leu	Thr	Gln	Glu	Glu	Val	Val	Asn	Tyr	Arg	Ala	Gly
	115						120					125			
Val	Ile	Ala	Val	Lys	Ile										
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Val	Arg	Met	Ser	Phe	Glu	Ile	Ile	Arg	Lys	Thr	Gly	Glu	Ile	Ala	Phe
1				5					10					15	
Val	Ala	Asn	Pro	Ile	Ala	Phe	Glu	Val	Lys	Thr	Ser	Gly	Glu	Ala	Glu
		20						25					30		
Ile	Glu	Ile	Arg	Leu	Arg	Val	Gly	Ala	Gln	Glu	Val	Phe	Ser	Ala	Ser
	35						40					45			
Tyr	Val	Pro	Phe	Gly	Asp	Arg	Ile	His	Phe	Asp	Ile	Ala	Glu	Ile	Leu
	50					55					60				
Gln	Pro	Phe	Val	Thr	Ser	Gly	Pro	Leu	Glu	Asp	Ser	Glu	Asp	Leu	Ile
65					70					75				80	
Leu	Pro	Val	Ser	Gly	Phe	Met	Ala	Gly	Tyr	Thr	Leu	Glu	Val	Lys	Gly
			85						90					95	
Arg	Glu	Thr	Arg	Thr	Leu	Thr	Gly	Lys	Val	Ile	Cys	Gly	Gly	Ile	Ser
			100					105						110	
Lys	Gln	Ala	Ala	Arg	Glu	Met	Ala	Gly	Arg	Gly	Thr	Asp	Phe	Ile	Leu
	115						120					125			
Asn	Arg	Leu	Arg	Asp	Tyr	Ser	Ser	Gln	Phe	Leu	Phe	Thr	Thr	Arg	Thr
	130					135						140			
Arg	Gly	Lys	His	Ile	Ala	Ile	Arg	Glu	Thr	Glu	Val	Ser	Pro	Leu	Ile
145					150					155				160	
Phe	Ile	His	Pro	Asp	Lys	Arg	Ile	Gln	Val	Glu	Ser	Glu	Tyr	Gly	Asn
				165					170					175	
Arg	Ile	Lys	Leu	Pro	Glu	Gly	Thr	Ala	Gly	Glu	Val	Tyr	Ala	Leu	Asn
		180					185						190		
Ile	Gly	Arg	Ile	Arg	Arg	Glu	Phe	Phe	His	Arg	Tyr	Asn	Gln	Ile	Val
	195					200						205			
Ser	Phe	Ile	Arg	Val	Leu	Val	Pro	Ala	Glu	Glu	Ala	Phe	Asp	Ile	Ser
	210					215					220				
Phe	Thr	Pro	Gly	Glu	Val	Ser	Glu	Asn	Gly	Leu	Ser	Phe	Leu	Phe	Arg
225					230					235				240	
Asn	Ser	Leu	Gly	Cys	Tyr	Glu	Val	Ile	Glu	Met	Pro	Gly	Lys	Met	Ile
			245						250					255	
Tyr	Ser	Leu	Asp	Arg	Gly	Asp	Asp	Glu	Asn	Tyr	Arg	Thr	Phe	Asp	Glu
		260						265					270		
Glu	Gly	Gly	Asp	Tyr	Ile	Thr	Gly	Arg	Pro	Arg	Pro	Asp	Leu	Leu	Gln
	275						280					285			
Lys	Met	Lys	Leu	Asn	Thr	Gly	Phe	Lys	Arg	Lys	Thr	Glu	Leu	Lys	Phe
	290					295					300				
Ile	Gln	Asp	Leu	Leu	Ser	Ser	Asp	Asp	Ile	Arg	Leu	Leu	Asn	Gly	Thr
305					310					315				320	
Ala	Arg	Arg	Arg	Val	Leu	Val	Thr	Cys	Glu	Glu	Tyr	Gly	Tyr	Glu	Glu
				325					330					335	
Pro	Met	Lys	Glu	Pro	Thr	Ser	Leu	Val	Leu	Asp	Ile	Glu	Val	Ala	Glu
		340						345					350		
Arg	Glu	Ser	Asn	Tyr	Thr	Pro	Asp	Met	Asp	Gly	Glu	Asn	Ala	Pro	Pro
	355						360					365			
Phe	Ile	Glu	Leu	Leu	Pro	Gly	Glu	Val	Glu	Ile	Pro	Ser	Glu	Gly	Gly

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 385 390 395

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 <213> B.fragilis

<400> 10440  
 Ile Thr Ser Met Ala Lys Ala Ser Trp Cys Asn Val Ser Pro Met Ser  
 1 5 10 15  
 Gly Lys Arg Asp Gly Val Leu Thr Ile Ser Ala Gly Ala His Thr Gly  
 20 25 30  
 Arg Val Ala Arg Asn Thr Val Val Thr Val Thr Ala Ala Asn Gly Thr  
 35 40 45  
 Arg Pro Ser Ala Ser Ile Ala Val Ser Gln Ala Gly Ala Gly Val Phe  
 50 55 60  
 Pro Thr Met Asp Thr Ser Lys Pro Asp Leu Ser Ser Ser Arg Gly Val  
 65 70 75 80  
 Val Asn Ile Asn Gly Thr Ser Asn Ile Ser Lys Leu Lys Trp Thr Cys  
 85 90 95  
 Pro Ala Arg Ile Met Gly Val Asp Met Pro Ile Asp Gly Asn Tyr Phe  
 100 105 110  
 Lys Asn Gly Gly Lys Thr Val Gly Ile Leu Gly Asn Asn Gly Gly Tyr  
 115 120 125  
 Ser Gly Glu Pro Arg Thr Leu Gly Pro Phe Lys Leu Cys Trp Arg Leu  
 130 135 140

<210> 10441  
 <211> 253  
 <212> PRT  
 <213> B.fragilis

<400> 10441  
 Ile Ile Phe Ala Val Arg Tyr Met Glu Gly Glu Ala Gly Asn Asn Asn  
 1 5 10 15  
 Asn Leu Phe Thr Tyr Ala Met Ala Thr Gly Ser Thr Lys Asp Asn Tyr  
 20 25 30  
 Leu Ala Asn Gly Glu Lys Phe Leu Asp Ala Leu Asn Ile Ala Asn Thr  
 35 40 45  
 Gly Ser Gln Gln Leu Glu Tyr Lys His Glu Ile Tyr Asn Ser Phe Asp  
 50 55 60  
 Val Ala Asp Thr Arg Arg Glu Ala Thr Phe Ile Ala Ser Tyr Ser Lys  
 65 70 75 80  
 Asn Thr Glu Thr Lys Glu Leu Thr Leu Arg Gly Thr His Val Arg Lys  
 85 90 95  
 Asn Ile Gly Tyr Val Asn Ala Gln Gly Ser Arg Ile Tyr Cys Gly Asp  
 100 105 110  
 Tyr Ile Ile Tyr Arg Leu Pro Leu Val Tyr Leu Met Leu Ala Glu Ile  
 115 120 125  
 Glu Asn Met Gln Gly Gly Asp Val Ala Lys Tyr Ile Asn Leu Val Arg  
 130 135 140  
 Glu Arg Ala Tyr Ser Thr Asn Trp Asp Lys Ala Ile Tyr Gly Tyr Thr  
 145 150 155 160  
 Asn Ala Asp Phe Thr Asn Glu Leu Ala Ile Leu His Glu Lys Asp  
 165 170 175  
 Lys Glu Phe Ile Gln Glu Gly Gln Arg Trp Trp Asp Ile Arg Arg Met  
 180 185 190

Thr	Leu	Thr	Lys	Gly	Gly	Lys	His	Leu	Val	Phe	Val	Lys	Glu	Gly	Ser
	195						200					205			
Ile	Gly	Thr	Asp	Met	Pro	Thr	Leu	Asp	Glu	Ala	Thr	Glu	Ala	His	Lys
	210					215					220				
Val	Leu	Trp	Pro	Val	Asp	Lys	Asp	Leu	Leu	Gly	Asn	Asp	Pro	Leu	Ile
225					230					235					240
Tyr	Gln	Thr	Pro	Gly	Tyr	Ala	Thr	Tyr	Lys	Lys	Ala	Glu			
				245					250						

&lt;210&gt; 10442

&lt;211&gt; 360

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (308), (347)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 10442

Lys	Ala	Ile	Leu	Met	Lys	Lys	Thr	Ile	Phe	Leu	Ile	Leu	Cys	Ile	Leu
1			5						10				15		
Cys	Ser	Leu	Gly	Ala	Met	Ala	Gln	Lys	Lys	Ser	Ile	Thr	Gly	Val	Ile
		20					25					30			
Thr	Asp	Gly	Ala	Gly	Glu	Ser	Ile	Ile	Gly	Ala	Ser	Val	Val	Glu	Val
	35					40					45				
Gly	Thr	Thr	Asn	Gly	Thr	Ile	Thr	Asp	Phe	Asp	Gly	Lys	Phe	Ser	Leu
	50				55				60						
Thr	Ile	Ala	Thr	Gly	Ala	Lys	Phe	Thr	Val	Ser	Tyr	Ile	Gly	Tyr	Lys
65				70					75					80	
Ser	Gln	Thr	Ile	Thr	Val	Gly	Ala	Glu	Asn	Thr	Tyr	Asn	Ile	Val	Leu
			85					90					95		
Lys	Glu	Asp	Thr	Glu	Val	Leu	Asp	Glu	Val	Val	Ile	Thr	Gly	Tyr	Gly
			100					105					110		
Gly	Ser	Gln	Lys	Arg	Ala	Thr	Leu	Thr	Thr	Ala	Ile	Ser	Lys	Leu	Asp
		115				120						125			
Asn	Ser	Val	Leu	Lys	Asn	Ala	Ala	Phe	Ser	Asn	Ala	Gly	Gln	Ser	Leu
	130				135						140				
Gln	Gly	Ser	Val	Thr	Gly	Leu	Arg	Val	Val	Asn	Lys	Thr	Gly	Gln	Pro
145					150					155					160
Gly	Ser	Glu	Pro	Asp	Ile	Thr	Leu	Arg	Gly	Gly	Ala	Thr	Ile	Thr	Gly
			165						170					175	
Asp	Asn	Ser	Lys	Ala	Leu	Ile	Val	Val	Asp	Gly	Ile	Val	Arg	Asn	Ser
		180						185					190		
Met	Ser	Asp	Ile	Asn	Pro	Ser	Asp	Ile	Glu	Ser	Ile	Gln	Val	Leu	Lys
		195					200					205			
Asp	Ala	Ala	Ser	Thr	Ala	Ile	Tyr	Gly	Ala	Arg	Ala	Asn	Gly	Gly	Val
	210				215						220				
Ile	Leu	Val	Glu	Thr	Lys	Ser	Gly	Lys	Glu	Gly	Lys	Ala	Ser	Val	Asn
225					230					235					240
Tyr	Lys	Phe	Lys	Met	Gly	Val	Asn	Phe	Ala	Arg	Lys	Gly	Tyr	Asp	Phe
			245						250					255	
Cys	Asp	Ala	His	Asp	Tyr	Ile	Tyr	Tyr	Asn	Arg	Leu	Gly	Tyr	Lys	Arg
		260					265						270		
Thr	Gly	Arg	Thr	Asn	Val	Asp	Thr	Gln	Met	Gly	Tyr	Gly	Ile	Gly	Asn
	275						280					285			
Asn	Leu	Phe	Asp	Ile	Arg	Tyr	Leu	Thr	Asp	Glu	Asn	Ala	Asn	Leu	Lys
	290					295					300				
Asn	Glu	Gly	Xaa	Ala	Ser	Met	Ala	Asp	Pro	Phe	Tyr	Asp	Gly	Lys	Thr

305 310 315 320  
 Ile Leu Tyr Lys Asp Tyr Ser Gly Glu Leu Asp Asp Val Val Phe Asn  
 325 330 335  
 Asn Ser Ala Leu Thr Gln Asp His Tyr Val Xaa Ile Thr Gly Gly Asn  
 340 345 350  
 Asp Lys Arg Thr Phe Leu Pro Ala  
 355 360

<210> 10443  
 <211> 71  
 <212> PRT  
 <213> B.fragilis

<400> 10443  
 Ala Lys Asn Gly Glu Lys Arg Lys Phe Cys Glu Tyr Phe Gln Thr Ser  
 1 5 10 15  
 Lys Asn Gln Ala Phe Ile Leu Phe Leu Val Leu Val Phe Ser Leu His  
 20 25 30  
 Lys Gly Leu Lys Met Asn Leu Leu Glu Gly Asp Lys Ser Ser Ile Lys  
 35 40 45  
 Ile Arg Leu Ile His Leu Leu Lys Asn Glu Leu Met Ile Phe Phe Gln  
 50 55 60  
 Asn Pro Thr Glu Val Arg Cys  
 65 70

<210> 10444  
 <211> 752  
 <212> PRT  
 <213> B.fragilis

<400> 10444  
 Ile Pro Pro Gly Ala Asp Ile Ser Pro Leu Val Tyr Pro Phe Pro Thr  
 1 5 10 15  
 Phe Leu Arg Gly Arg Gly Gly Ile Leu Thr Gln Ile Phe Ser Leu Thr  
 20 25 30  
 Leu Gly Ala Leu Val Gly Ile Leu Leu Phe Ala Arg Val Ala Phe Ala  
 35 40 45  
 Leu Asn Tyr Asp Arg Tyr Tyr Gln Glu Pro Glu Asn Leu Phe Leu Thr  
 50 55 60  
 Leu Arg Thr Val Val Ser Gln Gly Glu Lys Lys Glu Pro Val Cys Ser  
 65 70 75 80  
 Asn Tyr Gly Lys Leu Pro Ala Ala Ile Arg Glu Asn Phe Pro Asp Glu  
 85 90 95  
 Val Glu Asp Ala Thr Leu Ile Asp Leu Phe Ser Arg Ser Ser Leu Tyr  
 100 105 110  
 His Glu Gly Gln Glu Lys Lys Asp Ala Ile Leu Ala Thr Ser Arg Ser  
 115 120 125  
 His Ile Phe Ser Thr Leu Gly Val Lys Val Leu Ser Gly Asn Val Ser  
 130 135 140  
 Glu Leu Asp Asn Met Asp Ala Leu Phe Ile Ser Arg Ser Leu Ala Gln  
 145 150 155 160  
 Ser Leu Phe Ala Asp Ala Asp Pro Ile Gly Lys Thr Val Met Ile Asn  
 165 170 175  
 Ile Asp Tyr Pro Leu Thr Val Arg Gly Val Phe Glu Asp Ile Pro Glu  
 180 185 190  
 Asn Ala Glu Phe Arg Phe Asp Gly Val Tyr Ser Phe Val Thr Arg Ala  
 195 200 205  
 Asn Arg Phe Arg Asp Glu Arg Gly Gly Trp Arg Gly Asp Ile Ser Tyr  
 210 215 220



Thr	Cys	Met	Val	Arg	Phe	Arg	His	Pro	Glu	Asp	Val	Glu	Lys	Val	Ala
225					230					235					240
Ala	Arg	Met	Pro	Asp	Met	Met	Lys	Lys	Tyr	Ile	Gln	Tyr	Asn	Lys	Asp
				245					250					255	
Trp	Phe	Glu	Glu	Phe	Ser	Phe	Ile	Thr	Pro	Ser	Gln	Phe	His	Leu	Gln
			260					265					270		
Lys	Lys	Glu	Ser	Arg	Lys	Ile	Ile	Ser	Ile	Leu	Ser	Ile	Leu	Gly	Phe
		275					280					285			
Ala	Ile	Leu	Leu	Ile	Ala	Gly	Met	Asn	Asn	Val	Leu	Ile	Ser	Ile	Ser
	290					295					300				
Ser	Leu	Pro	Gln	Arg	Ala	Lys	Ser	Val	Gly	Val	His	Lys	Cys	Ser	Gly
305					310				315						320
Ala	Ser	Thr	Gly	His	Ile	Tyr	Arg	Met	Phe	Leu	Trp	Glu	Ser	Ala	Leu
				325					330					335	
Leu	Ile	Leu	Val	Ser	Leu	Leu	Gly	Val	Ile	Val	Leu	Leu	Leu	Tyr	Phe
			340					345					350		
Lys	Pro	Glu	Ile	Glu	Asp	Leu	Ser	Gly	Ala	Ser	Leu	Ala	Thr	Leu	Phe
		355					360					365			
Thr	Trp	Arg	Thr	Leu	Trp	Val	Pro	Ala	Leu	Val	Thr	Ile	Phe	Leu	Phe
	370					375					380				
Leu	Leu	Ile	Gly	Leu	Leu	Pro	Gly	Lys	Leu	Phe	Ser	Ser	Ile	Pro	Val
385					390					395					400
Thr	Gln	Val	Phe	His	Arg	Phe	Thr	Gly	Tyr	Arg	Ala	Ser	Trp	Lys	Tyr
				405					410					415	
Pro	Leu	Leu	Phe	Val	Gln	Phe	Thr	Gly	Val	Ala	Phe	Ile	Leu	Gly	Leu
			420					425					430		
Leu	Met	Ile	Ile	Leu	Leu	Gln	Tyr	Asn	Gln	Val	Met	Asn	Arg	Ser	Met
		435					440					445			
Gly	Tyr	Lys	Ile	Asp	Asn	Leu	Val	Ile	Gly	Trp	Gly	Pro	Phe	Asp	Ser
	450					455					460				
Met	Asp	Lys	Ile	Asp	Gly	Ile	Leu	Arg	Gly	Leu	Pro	Phe	Ile	Glu	Ala
465					470					475					480
Ser	Cys	Asn	Ser	Ala	Ser	Phe	Ile	Tyr	Asn	Gly	His	Thr	Arg	Gln	Ser
				485					490					495	
Phe	Thr	Asp	Ile	Asn	Gly	Lys	Arg	Phe	Met	Gly	Cys	Ile	Asp	Phe	Ile
			500					505					510		
Asp	Glu	His	Tyr	Val	Pro	Ile	Leu	Gly	Leu	Gln	Ile	Leu	Gln	Gly	Arg
		515					520					525			
Asn	Val	His	Gln	Asp	Gly	Glu	Val	Leu	Val	Asn	Glu	Glu	Leu	Leu	Arg
	530					535					540				
Gln	Val	Gly	Trp	Thr	Asp	Ser	Pro	Ile	Gly	Arg	Lys	Leu	Met	Glu	Asp
545					550					555					560
Asn	Tyr	Glu	Trp	Gly	Thr	Val	Val	Gly	Val	Val	Lys	Asp	Tyr	Val	Ala
				565				570						575	
Gln	Ser	Ala	Tyr	Gln	Pro	Gln	Thr	Ser	Val	Ala	Leu	Val	Ser	Ser	Leu
			580					585					590		
Glu	Arg	Arg	Trp	Glu	Ala	Asn	Lys	Arg	Asn	Leu	Ile	Leu	Lys	Glu	Pro
		595					600					605			
Phe	Lys	Glu	Asn	Leu	Ser	Lys	Ile	Arg	Ala	Leu	Met	Lys	Glu	Thr	Phe
	610					615					620				
Pro	Thr	Glu	Asp	Ile	Gln	Phe	Arg	Ser	Ala	Arg	Gln	Glu	Val	Asp	Asn
625					630					635					640
Leu	Tyr	Gln	Val	Val	Arg	Arg	Phe	Arg	Asn	Ile	Val	Ile	Val	Ala	Ser
				645					650					655	
Val	Ser	Ile	Val	Val	Ile	Val	Leu	Met	Gly	Leu	Phe	Gly	Phe	Val	Asn
		660					665					670			
Asp	Glu	Val	Gln	Arg	Arg	Ser	Lys	Glu	Ile	Ala	Ile	Arg	Lys	Val	Asn
		675					680					685			
Gly	Ala	Glu	Ser	Gly	Asn	Ile	Ile	Asn	Leu	Leu	Asn	His	Asn	Ile	Phe

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690		695		700											
Trp	Ile	Ala	Leu	Pro	Ala	Ile	Phe	Val	Gly	Ile	Ala	Leu	Ala	Tyr	Val
705					710					715					720
Val	Gly	His	Lys	Trp	Val	Glu	Gln	Phe	Thr	Asp	Gln	Ile	Val	Leu	Ser
				725						730					735
Ser	Pro	Arg	Asp	Val	Ser	Asp	Gln	Gly	Gly	Gln	Tyr	His	Gly	Gly	Gln
			740					745						750	

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